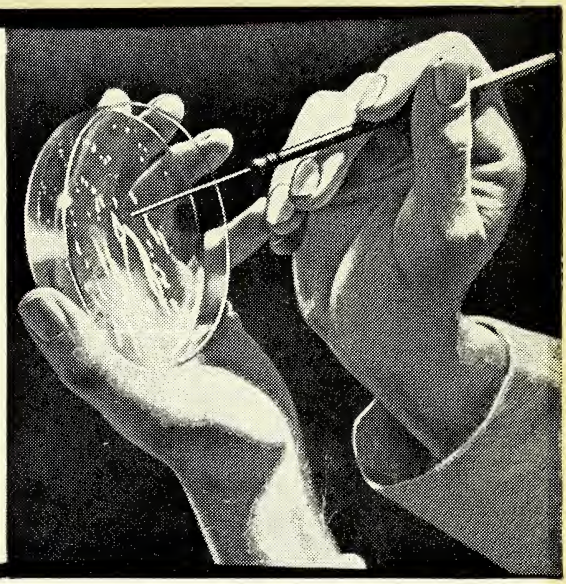
The
CHEMIST AND DRUGGIST
or RETAILER — WHOLESALER — MANUFACTURER
MARCH 29, 1952

Some
EVANS
contributions to
Modern Therapy



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Vitamin B_{12} concentrate

COLLIRON
Colloidal Ferric Hydroxide

HEPATEX-ORAL
Proteolysed liver extract in liquid form

HEPOVITE
Protein hydrolysate derived from liver with naturally-occurring hæmopoietic factors, vitamins and carbohydrates

HEPRONA
Proteolysed liver and iron tonic

NEO-HEPATEX
Refined proteolysed liver extract for intramuscular or intravenous injection

PULARIN
Highly purified and pyrogen-free heparin

RONDASE
Potent, purified hyaluronidase

EVANS

Literature on any of these products may be obtained on request from the Medical Information Department, Speke, Liverpool 19, or 50 Bartholomew Close, London, EC1

EVANS MEDICAL SUPPLIES LTD

Overseas Companies & Branches: AUSTRALIA · PAKISTAN
EIRE · INDIA · BRAZIL · SOUTH AFRICA · SOUTH EAST ASIA

400

Index to Advertisers pp. 5 & 6

PHOTOGRAPHIC NUMBER

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SCARLET
(G.P.O.)

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A

'Cooltan' OFFER

13 to the Dozen

BONUS FOR ASSORTED WINDOW DISPLAY

on *any* assortment to your own choice of the following:

	PRICE TO PUBLIC INC. TAX EACH	TRADE PRICE EX. TAX PER DOZ.
COOLTAN CREAM No. 1 TUBES	2/2	10/10
,, ,, No. 2 ,,	3/9	18/9
,, ,, No. 3 ,,	4/11	24/6
,, ,, Tins	2/6	12/6
,, LOTION	3/9	18/9
,, POWDER No. 1	2/6	12/6
,, ,, No. 2	3/11	19/-

The offer also extends to Swiftan (the Tinted Sun Tan Cream of Sun Island Chemicals Ltd.) and to Hennafoam Shampoo Powders and Facial Youth Cream

To qualify for Bonus Terms, Orders must be received by us between March 29th and April 19th

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(We promise you a RECORD Advertising campaign THIS SEASON)

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in the spring——

the debility which is an inevitable legacy of a winter characterised by epidemics of influenza and measles requires an efficient tonic as an essential first step towards recovery. Here is a tonic containing glycerophosphates, iron, manganese, caffeine citrate, tincture of nux vomica and vitamin B_1 in a palatable and easily assimilated form:

the tonic——

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Packings: 4 oz., 8 oz., 80 oz. Literature will gladly be supplied on request.

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INDEX TO ADVERTISERS

Acme Vacuum Flask Co. xxiv
Actina, Ltd. 34
Agfa, Ltd. 39
Agilux, Ltd. 37
Allans xi
Allen & Hanburys, Ltd. ..... Cover iv
Altrincham Rubber Co., Ltd. 38
Amber Pharmaceuticals, Ltd. 6
Arvin Electric, Ltd. xxvii
Askit, Ltd. xxx

Bear Honey vi
Bell, John, Hills & Lucas, Ltd. 5
Biddle, Sawyer & Co., Ltd. ..... Cover ii
Biometica, Ltd. vi
Bowens Camera Repair Service 38
Box, W. H. iv
Brannan, S., & Sons, Ltd. xii
Bristow, T. F., & Co., Ltd. xxxi
British Drug Houses, Ltd., The i
Broadstairs Photo Works, Ltd. 34
Brooks Appliance Co., Ltd. xxxvi
Buckley-Bowker Tablet Co., Ltd. iii
Burroughs Wellcome & Co. 12, 45

Calfos, Ltd. xxiv
Calmic, Ltd. xvi
Carnegie Brothers (1949), Ltd. 43
Church & Co. (Fittings), Ltd. x
Cinex, Ltd. 30
Clay & Abraham, Ltd. xli
Container Recovery Service ..... viii, ix
Court, Kathleen (England), Ltd. 2
Cox, Arthur H., & Co., Ltd. 8
Croda, Ltd. iii
Crookes Laboratories, Ltd. 3
Culmak, Ltd. ..... Leader Page
Cumberland Paper Co., Ltd. 18
Cuticura Shaving Stick 14

Daniel, Richard, & Son, Ltd. 13
Davenport, J. T., Ltd. xli
Dekko Cameras, Ltd. 32
Distillers Co., Ltd. xii
Distillers Co. (Biochemicals), Ltd. 9
Domestos, Ltd. xxii
Dyanese, Ltd. iii

Electronic Engineering iv
Emion, Ltd. 44
Evans Medical Supplies, Ltd. ..... Front Cover

Fennings, A. ..... Leader Page
Ferris & Co., Ltd. xxxiv
Fine Spinners & Doublers, Ltd. 4
Fountain Press, The 32
Foyles Libraries, Ltd. 36
Franks, A., & Bartlett Co., Ltd. xvii
Freudentheil, Smith & Co. ..... Leader Page

Gale & Mount, Ltd. xxx
Gallard-Schlesinger Chemical Co. xiii
Gledhill, G. H., & Sons, Ltd. xi
Glover, Thomas & Son, Ltd. xii
Gnome Photographic Products, Ltd. 36
Golden, Ltd. xviii
Gowlands, Ltd. 32
Greeff, R. W., & Co., Ltd. 27
Guy, Leonard, & Co., Ltd. xxxiv

Halewood Chemicals, Ltd. iii
Hall, Forster & Co., Ltd. ..... Leader Page
Hardy, M. W., & Co., Ltd. xix
Harker, Stagg, Ltd. 8
Hatchwell Co., Ltd., The ..... Leader Page
Herbert & Sons, Ltd. xi
Herts Pharmaceuticals, Ltd. xlii
Hunter, R. F., Ltd. 31

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THE NEURASTHENIC
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They all need John Bell's Tonic Phosphates

Presented in an easily assimilated liquid form, this well-proved combination of strychnine and the glycerophosphates quickly wins the patient's confidence through its pleasing colour and palatability. Tonic Phosphates restores appetite, increases energy, and improves bodily tone—ensuring for the generally debilitated a properly balanced return to sound health.

Order John Bell's Tonic Phosphates now, to meet the demand which regularly develops at this time.

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Worsley Bridge Road
London, S.E.26

INDEX (cont.)

Ilex Supply Co., Ltd. xxxiv
Imperial Chemical Industries, Ltd. xxix
Ingram, J. G., & Son, Ltd. v
Inverni & Della Beffa xii

Jackson, George, & Sons, Ltd. xxxii
Janssen's Herbal Tablets, Dr. xxxiii
Jarrett, Rainsford & Laughton, Ltd. 18, 42
Jeffreys, Miller & Co., Ltd. xii

Kearsley, C. & G., Ltd. vi
Kellys, John (London), Ltd. ii
Kershaw-Soho (Sales), Ltd. 35

Macdonald & Son, Ltd. 16
Max Factor (Hollywood & London Sales), Ltd. 15
Milbo Photographic, Ltd. 29
Mitchell, L. A., Ltd. xii
Monsanto Chemicals, Limited ....xx-xxi
Murray, S., & Co., Ltd. v

National Glass Works (York), Ltd. xxv
Neville Brown & Co., Ltd. 19-26
Nu-Swift, Ltd. xi
Nurse Sykes Co. ....Leader Page

Odedent Co., The ....Leader Page
Olley, C., & Sons, Ltd. x
Organon Laboratories, Ltd. 46
Orme Bros, Ltd. x
Ormskirk Photo-Services, Ltd. 38
Orridge & Co. ....Col. Supp.
Ortho Pharmaceuticals, Ltd. xxvi

Pal Razor Blades xxxvii
Pathéscope, Ltd. 33
Perico Products (1950) 36
Petley, P. J., & Co., Ltd. 7
Pharmaceutical Specialities (May & Baker), Ltd. xv
Ponds Extract Co. 38
Pure Products Co., Ltd. 41

Rentokil, Ltd. 14
Reuter, R. J., Co., Ltd. 10, 11
Robinson & Sons 1
Roche Products, Ltd. 40
Rodmill Chemical Co., Ltd. vii

Sacker's Hygienic Comb Co., Ltd. vi
Sandoz Products, Ltd. xxxv
School of Surgical Chiropody xxxii
Scruton, Oscar, & Co., Ltd. vi
Sessions, Wm., Ltd. ....Leader Page
Silber, Ltd. 36
Silverthorn Manufacturers, Ltd. 42
Spa Brushes, Ltd. 28
Stemco, Ltd. 14
Steradent 17
Surgical & Manicure Specialists, Ltd. xi

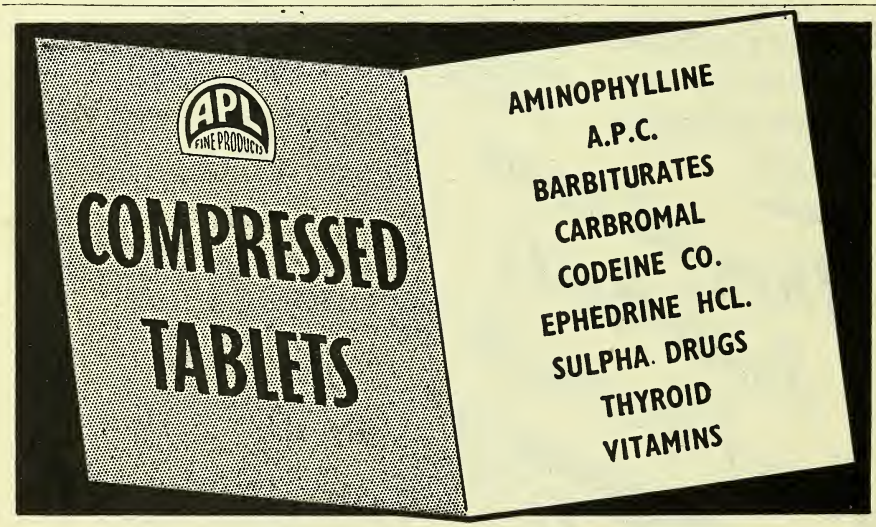
Tell Products, Ltd. ....Col. Supp.
Thornton & Ross, Ltd. xviii
Townsend, J., & Sons, Ltd. x
Tunnel Glucose Refineries ii

United Glass Bottle Manufacturers, Ltd. xxiii

Vincent, H. E. B., Ltd. xxxvi

Wagner, R. V., Ltd. vi
Wallis Laboratory, Ltd., The ....Leader Page
Warrington Chemical & Drug Co., Ltd., The ii
Wesley, Harold, Ltd. iv
Whiffen & Sons, Ltd. ....Cover iii
Whitakers & Co. (Kendal), Ltd. xxx
Whitecroft Pin Mftg. Co., Ltd. 13
Windschuegl, Chas. H., Ltd. xxxix
Wiseman, J. H., & Co., Ltd. vi

Zeal, G. H., Ltd. xxxvi



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These are some of the advantages you get when adopting our Chemist's OWN PACK scheme of selling.

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OVER 50 YEARS
Simple and easy for home use
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SEVEN SHADES

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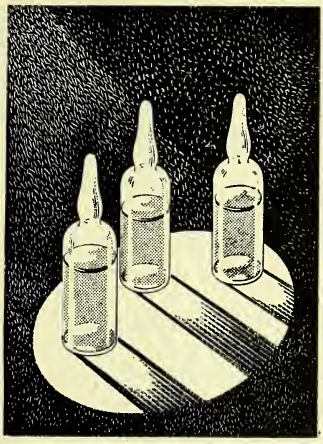


'DISTIVIT' B12

brand

Vitamin B12 is the most potent anti-anaemic substance known. It is a complex organic material containing cobalt and phosphorus, and may be obtained from the products of fermentation of several micro-organisms. 'DISTIVIT' B12 solution of crystalline vitamin B12 presents this material in an especially pure and potent form. It is issued in three strengths in ampoules containing 20, 50 and 100 micrograms per ml. in boxes of 5 x 1 ml. ampoules. Doctors are being informed of the action and uses of 'Distivit' B12.

Distributed by
BURROUGHS WELLCOME & CO.
EVANS MEDICAL SUPPLIES LTD.
IMPERIAL CHEMICAL (PHARMACEUTICALS) LTD

Manufactured by

THE DISTILLERS COMPANY (BIOCHEMICALS) LIMITED

SPEKE LIVERPOOL

★ *'DISTIVIT' a trade mark, is the property of the manufacturers*

NEW product by No. 4711.

MATT-CREME FOR DRY SKINS

- Today more women than ever before have dry skins.
- To solve this problem '4711' have produced a new cream—'4711' Matt-Creme for Dry Skins.
- Tinted to suit the modern demand.
- Also suitable for normal skins.
- Government Survey shows that women spend more on face creams than on any other toilet preparation.
- New '4711' Matt-Creme fills the biggest need in this biggest market.

10% PLUS 7½% DISCOUNT ON £3 ORDER

This special introductory discount offer is made on all first orders of new *Matt-Creme for Dry Skins* for a limited period:—

Each order of 30/- (wholesale price)
5% introductory discount.

Each order of 60/- (wholesale price)
10% introductory discount.

These special discounts are in addition to the usual quantity discount of 7½% off invoice for a £3 order and 10% for a £10 order. So a £3 parcel of new Matt-Creme for Dry Skins will get 10% plus 7½%. First deliveries will be made in April.

'4711' Matt-Creme (*the '4711' Vanishing Cream*) **for Oilier Skins**

Matt-Creme, the '4711' Vanishing Cream that so many women have known and used for years, is feather-light, slightly astringent, and an ideal foundation for those with oilier skins.

Both '4711' Matt-Cremes are packed in convenient tubes in the well-known '4711' colours, blue and gold. Also in attractive opal jars.

Retail price of both Matt-Cremes · TUBES 1/3 - 2/6 · JARS 3/10 - 5/4

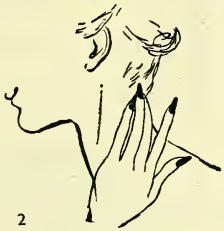
No. 4711. Biggest post-war advertising scheme

Four-seven-eleven are now carrying out their largest advertising plans since the war. New displays and window dressing schemes are in hand. Large size advertisements will appear regularly in National newspapers and women's magazines with a total feminine readership of **13,264,000** and in eighteen provincial newspapers covering the whole of the United Kingdom.

New Year-round Appeal for '4711' EAU DE COLOGNE

"THE RITUAL OF FRESHNESS"

1 '4711' on forehead



2 '4711' on nape of neck

3 '4711' behind ears

4 '4711' Inhaled

A new theme for Eau de Cologne is introduced — *the '4711' ritual of freshness* — illustrated here. This theme is designed to appeal to all women of all ages, and to encourage the *regular* use of '4711' Eau de Cologne, right through the year.

The handbag-size watch-shaped bottle is prominently featured in all advertisements. This bottle is not only very convenient to carry — its price of 4/3 is well within the reach of every purse.

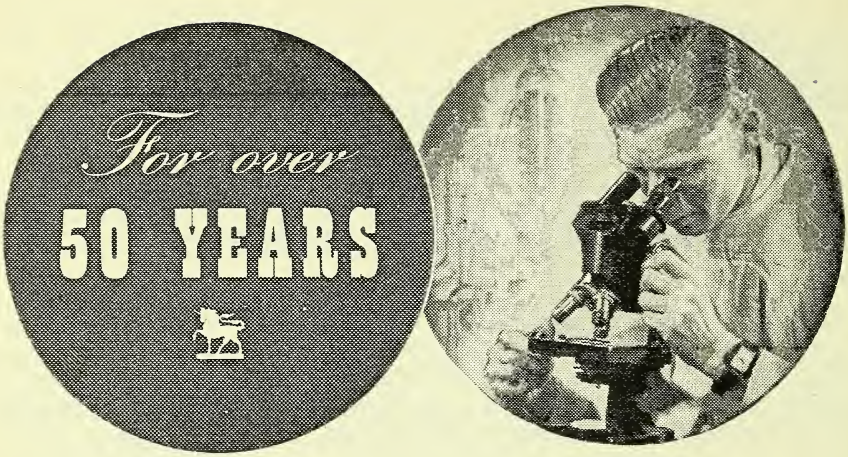
The TWO MATT-CREMES by '4711'

Advertisements feature, too, the full story of the *two* '4711' Matt-Cremes and stress the importance of the right type of foundation cream for each particular complexion.

'4711' Eau de Cologne TALCUM POWDER

"What's fresh about talc?" That's the intriguing headline of an advertisement for '4711' Talcum Powder. It stresses the fragrant freshness of this talcum — already one of '4711's' best-selling lines.

Made in England by R. J. REUTER COMPANY LIMITED · SLOUGH · BUCKS



. . . the Wellcome Chemical Works have been producing chemicals of superlative quality. Many of these can now be supplied to other manufacturers on particularly advantageous terms. Long and extensive experience in the field of chemical manufacture places B. W. & Co. in an exceptional position to meet the needs of individual customers. Inquiries should be made to Burroughs Wellcome & Co. at the address below.

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LOZENGES · TABLETS · OINTMENTS · Etc.

Aids to Dispensing Outfits of Creams and Drops

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Richard Daniel & Son Derby.

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ABERDEEN. Tel: 27233

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LONDON, W.1. Tel: WELbeck 5718/9

Detailed Price List on Request

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kept immaculate with

"WITCH"

HAIR PINS in BLACK, BLONDE, BROWN or GREY

Made by

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London office: 6/7 Queen Street, Cheapside, E.C.4 · Tel: City 5481-2-3

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This advertisement is one of a series currently appearing in a large number of National Publications.

Are YOUR stocks sufficient to meet the demand?

RENTOKIL TIMBER FLUID retails at 2/-, 3/3, 5/9, 9/6 and in bulk. Complete Outfit (inc. Injector) 10/6.

RENTOKIL

TIMBER FLUID

will be asked for again and again this year. Already hundreds of thousands of customers have discovered that Rentokil Timber Fluid is outstanding for Woodworm Control.

Of equal high standing are Rentokil Mothproofer, Furniture Cream, Rentan, Rentokilit, Rentopine, Rentovine and Rentokil Powders, etc

Send for Generous Trade Terms today an

STOCK NOW

RENTOKIL LTD.

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Tel: Leatherhead 4021/2

PARAFFIN WAX

FOR

Physio-Therapy Purposes

★ LOW MELTING POINT 110°F–115°F

★ IMMEDIATE DELIVERY

★ ANY QUANTITY

Prices and samples from:

STEMCO LTD

128-132 ALBERT ST., CAMDEN TOWN
LONDON, N.W.1

Sensitive skins

Cuticura Shaving Soap is *mildly medicated* . . . . your customers will thank you for introducing them to the perfect stick for tender faces. The black and orange plastic holder for this large sized stick attracts the eye: display cartons with each half-dozen make them easy sellers at your counter.

National advertising supports your sales.
Cuticura Shaving Sticks retail at 2/2 (Inc. P.T.)
Trade price 15/6 doz. P.T. 5/2 doz.

Cuticura

MILDLY MEDICATED
SHAVING STICK

DON'T FORGET QUICK SELLING CUTICURA SOAP

Order to-day from NEWBERY & PHILLIPS LTD.
Victoria House, Southampton Row, W.C.1. HOL 1564

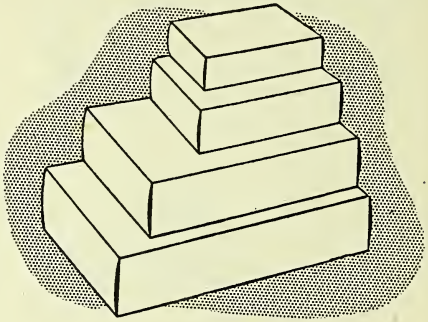
Max Factor
HOLLYWOOD

THE GREATEST NAME
IN MAKE-UP

MAX FACTOR HOLLYWOOD & LONDON (SALES) LTD
16 OLD BOND STREET · LONDON · W.1

SAVE MONEY WITH THIS

Special Offer!



OF PLAIN

PILL & TABLET CARTONS

Orders received up till 18th April for these good-quality Plain Pill and Tablet Cartons, made of manilla board, will be subject to the following

SPECIAL DISCOUNT TERMS

5,000	assorted or of one kind	... ...	2½%
10,000	ditto	... ...	5 %
25,000	ditto	... ...	7½%

PRICES Per 1,000

25s.	...	21s.	100s.	...	30s.
50s.	...	24s.	Extra Large		40s.

Send your order NOW!

NOTE.— ***All goods are sent carriage paid in free packages***

MACDONALD & SON LTD.

HOPE MILLS POLLARD STREET MANCHESTER 4

Out of every five customers . . .

three should be . . . your regular Steradent customers

Dentures are worn by three adults in every five (according to latest national statistics).

So three-fifths of the people who come into your shop every day are prospective customers for a denture-cleaner.

You can recommend Steradent, the "oxygen denture cleaner" with the confidence that it will bring you the steady profit of regular, repeat sales.

For "oxygen-clean" dentures keep their fresh, "new look" sparkle: bring customers back, regularly, for more Steradent

Steradent REGD.

Specially made to "oxygen-clean" dentures

A RECKITT AND COLMAN PRODUCT

Seagull

TRANSPARENT PHOTO FIXERS

can now be supplied through your usual wholesaler. Order a supply of this profitable line today and see how quickly they sell when displayed. Sold in attractive boxes containing 100 corners.

Full wholesale discount

Send for sample box and trade terms

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London Office and Showrooms:

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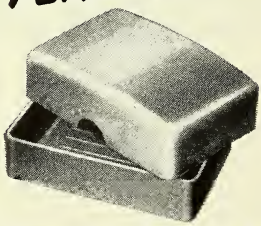
Works: Cleator Mill, Cleator, Cumberland

HOLIDAY SEASON STARTING!

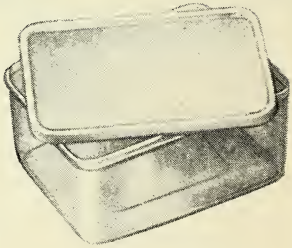
STOCK THESE Twinco PLASTIC LINES for EASTER

093 Fluted square-based Tumbler 3¾ ins. high. Unbreakable—flexible—can be squeezed in the hand. Ideal for Picnics, Camping, etc. Natural, Peach or Blue. Showcard supplied.



UNCRUSHABLE SOAP BOX

086 Uncrushable Plastic Soap Box for travelling. Can be stood on without breaking!! Translucent Pastel colours of Blue or Peach. Cut out showcard available.



FOOD PACK

088 Plastic Food Container, ideal for Holiday Picnics, Camping, Travelling, etc. Transparent base with ivory flexible lid making container virtually airtight. Size 5¾ × 4½ × 2¾

ASK YOUR WHOLESALER

or write the manufacturers:

JARRETT RAINSFORD & LAUGHTON LTD.

Leominster Works, Lower Essex Street, BIRMINGHAM, 5, England.

CAMERAS

AND

FILMS

1952

We present our range of Cameras and Films for 1952. The highest quality, combined with lowest possible prices, and backed by the manufacturers' reputation, assures you of a steady flow of profitable business this summer.

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& COMPANY LIMITED

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Telephone: LANgham 7161 (10 lines)

Sole Importers of Ferrania cameras and films and other famous photographic products

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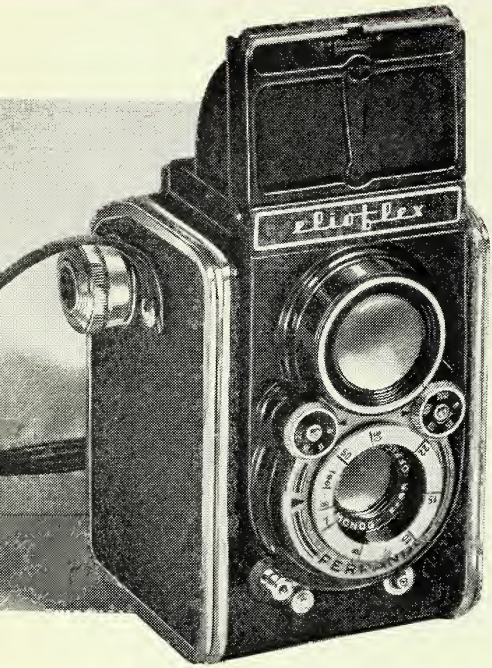
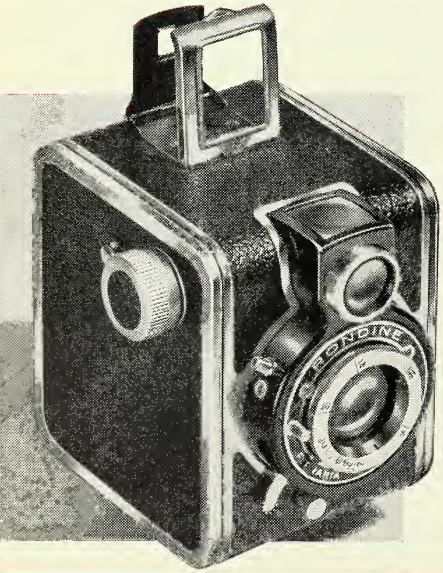


ferrania "ELIOFLEX" CAMERA

A reflex-type camera with an aluminium die-cast body, covered in real leather with polished aluminium beading and satin chrome trim. Takes 12 2¼″ x 2¼″ pictures on size 20 film. With a coated Galileo Monog lens f/8, f/11, f/16, and f/22. Speeds: 1/25, 1/50, 1/100 and 1/200 and B. Sychronised for flash. Focussing scale 7 ft. to infinity. **£12 . 18 . 0**

Imitation leather ever-ready case **£1 . 10 . 0**



ferrania "RONDINE"

MODEL "A" CAMERA

An all-metal de-luxe box camera, taking 8 exposures, 2¼″ x 1⅝″ on No. 27 film. Ferrania linear 7.5 c.m. coated lens. Reflex type and Direct Vision Viewfinders. Smooth action shutter for instantaneous and Time Exposures. **£5.18.4**

Imitation leather ever-ready case **18. 0**

MODEL "B"

As above, but with focussing from 7 ft. to infinity and built-in flash contacts **£6 . 19 . 9**

Imitation leather ever-ready case **18. 0**

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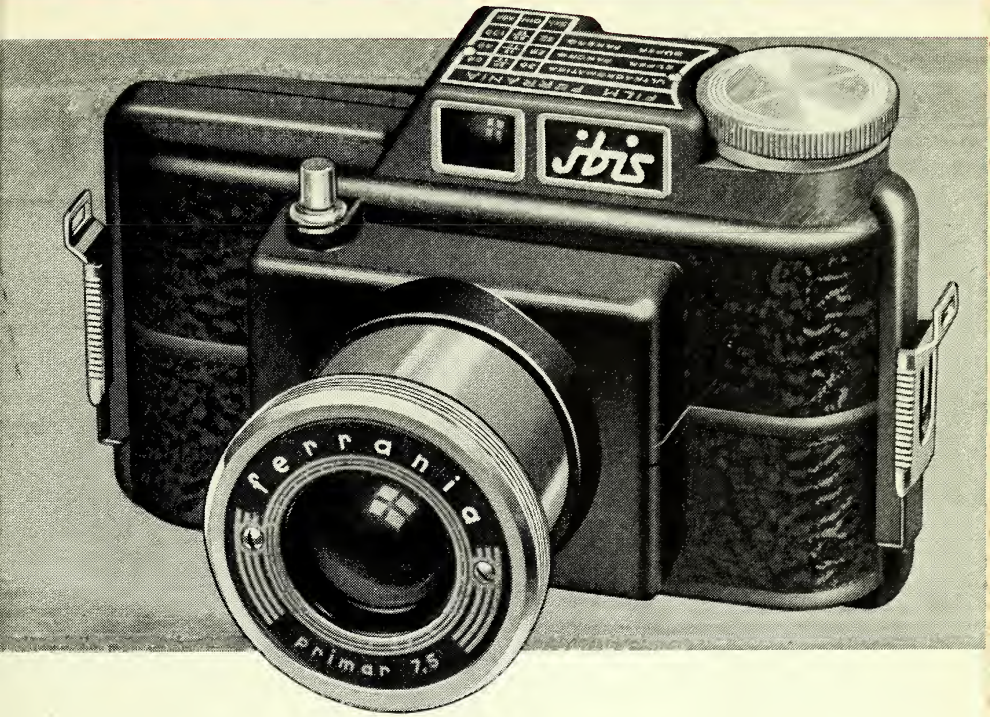

ferrania IBIS CAMERA

Many simple cameras today are roughly made: not so the Ferrania IBIS. Though it is as easy to use as a box camera, and much handier, it has the quality of a precision miniature camera, which it resembles in style. Made of metal throughout—light alloy pressure die-castings—and with attractive leather finish, it will go on looking smart and taking good pictures for years. There is nothing to go wrong and everything to be proud of. Takes 8 exposures on No. 127 film. A patent safety device prevents the shutter from being released until the lens is correctly positioned. Complete with neck strap. **£3 . 18 . 9**

Imitation leather ever-ready case **19. 5**

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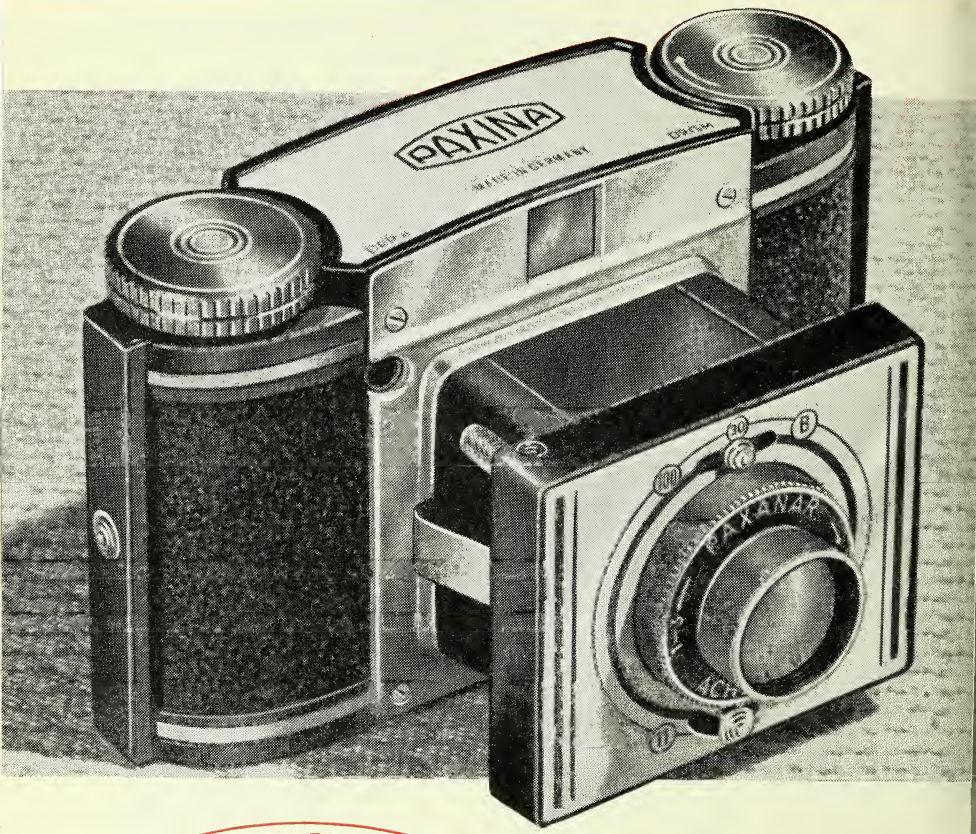


PAXINA CAMERA

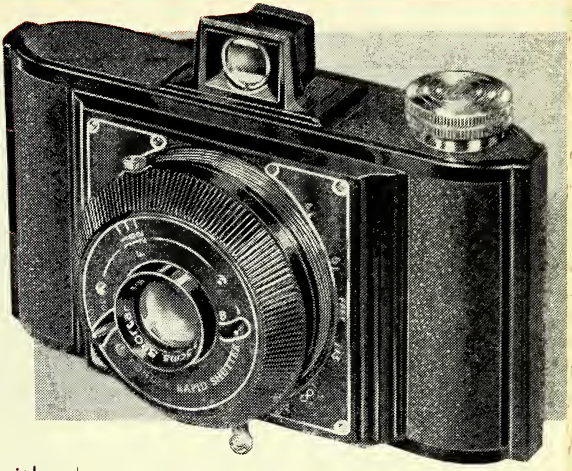
A handy, economical camera of smart appearance. Takes 12 $2\frac{1}{4}'' \times 2\frac{1}{4}''$ pictures on size 20 film. The robust die-cast body is leather cloth covered and bright parts are finished in chrome and dural. f/7.7 achromat lens focussing from 3 ft. to infinity. f/7.7, f/11, f/22. Built-in direct vision optical viewfinder. Shutter speeds 1/30, 1/100 and Time. **£7 . 15 . 0**

Imitation leather ever-ready case **£1 . 16 . 0**

NEVILLE BROWN & CO. LIMITED

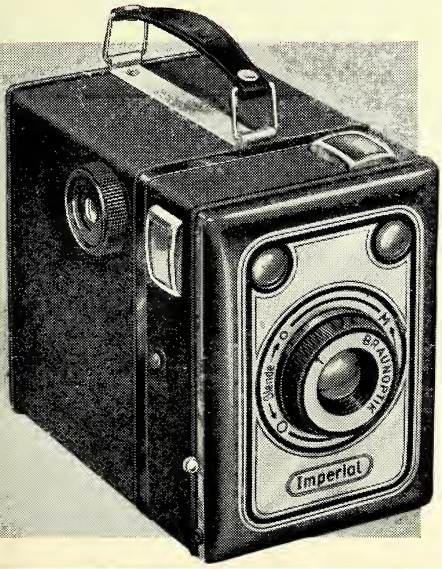
Wembley Sports

CAMERA



A "popular" priced camera with amazing specification. Takes 8 $3\frac{1}{4}'' \times 2\frac{1}{4}''$ pictures on size 20 film. Sportar lens 8.5 cm. f/11, f/16 and f/22. Rondex Rapid shutter, speeded 1/25, 1/50 and 1/100 sec. and Time. Focussing 4 ft. to infinity. Direct vision optical viewfinder. **£5 . 12 . 6**

Canvas ever-ready case **19. 10**
Imitation leather ever-ready case **£1 . 9 . 9**



Imperial

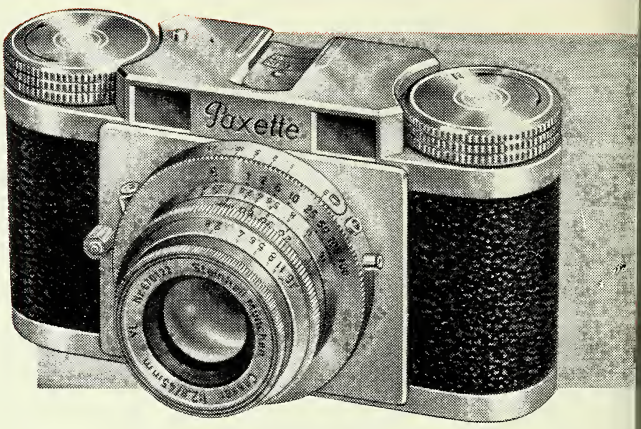
BOX CAMERA

Takes 8 — $3\frac{1}{4}'' \times 2\frac{1}{4}''$ pictures on size 20 film. Brilliant viewfinders for vertical or horizontal pictures. All metal body. Adjustable lens aperture. Time and instantaneous shutter with socket for cable release. Easy to load and substantial film-wind knob. Bushed for tripod. Carrying handle.

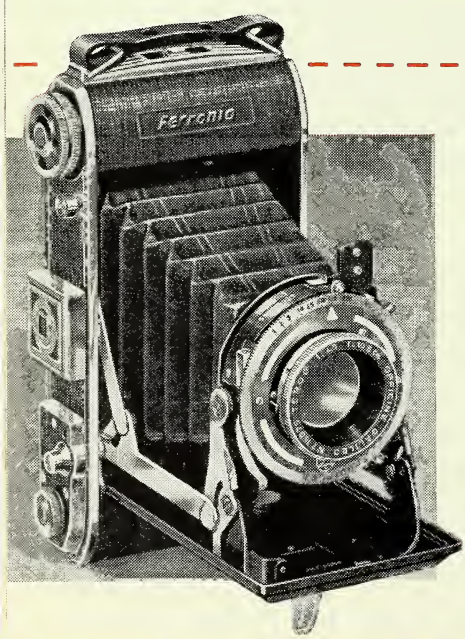
£2 . 16 . 6

Paxette

CAMERA



A precision miniature camera, taking 36 exposures on 35 mm. film. Solid metal body. Handy size. Easily operated controls. Shutter released by body trigger, connected with the automatic counter and device for preventing double exposures. Built-in visual exposure meter. Body leather covered and metal parts satin-chromed. f/2.8 Steinheil-Cassar lens in Prontor S shutter. Speeded from 1 sec. to 1/300 sec. and Time. Synchronised for flash and with built-in self-timing release. Bushed for tripod.



Ferrania

FALCO CAMERA

A bellows-type roll film camera of smart appearance, extremely well-made and beautifully finished. Takes 8 exposures, $3\frac{1}{4}'' \times 2\frac{1}{4}''$, on size 20 film. Self-erecting front, f/4.5 Galileo anastigmat lens, coated, in Prontor synchronised shutter. Speeded from 1 sec. to 1/250 sec. Shutter/Film interlock makes double exposures impossible. Focussing from 3ft. to infinity. The finest camera in its class.

£26 . 17 . 6

Imitation leather case **19. 5**

NEVILLE BROWN & CO. LIMITED

Ferrania are amongst the world's biggest manufacturers of sensitised materials and Ferrania quality is of an exceptionally high standard. Roll films and film packs have a protective layer over the emulsion to protect them against scratches. They are backed by a non-curling layer which prevents curling during all processes—including drying. Chromatic sensitivity covers the whole range of colours, giving negatives that are rich in detail with full gradation of tone. Although halation is minimised because of the very thin base, all films have an anti-halation backing. Spools on which the films are supplied are accurately made and well finished. Cassettes in which 35 mm. films are supplied are easy to manipulate in camera or developing tank.

Ferrania ROLL FILMS

No.	Exposures	SIZE		PRICES	
		Inches	c.m.	Ultra-cromatica	Super Panchro
F 20	8	$2\frac{1}{4} \times 3\frac{1}{4}$	6 × 9	2/9	3/2
F 520	8	$2\frac{1}{4} \times 3\frac{1}{4}$	6 × 9	2/9	3/2
F 27	8	$1\frac{5}{8} \times 2\frac{1}{2}$	4 × 6·5	2/5	2/9
F 16	8	$2\frac{1}{2} \times 4\frac{1}{4}$	6·5 × 11	3/8	4/-
F 516	8	$2\frac{1}{2} \times 4\frac{1}{4}$	6·5 × 11	3/8	4/-
F 29	6	2 × 3	5 × 7·5	2/9	3/2

Ferrania 35mm. FILMS

P.3 FINE GRAIN PANCHROMATIC AND S.2 SUPER PANCHROMATIC		PRICES
Cassette	36 Exposures	9/5
REFILL	36 Exposures	4/10
REFILLS	3 × 36 Exposures	13/1
REFILLS	10 × 36 Exposures	39/6

Ferrania FILM PACKS

SIZE	EMULSION	PRICES
$3\frac{1}{4}'' \times 2\frac{1}{4}''$	Superpanchro	16/-
9 × 12 cm.	Superpanchro	23/4

77 NEWMAN STREET · LONDON W.1

Packed with information about all Nebro Accessories and introducing many new lines, this handy pocket size catalogue is your ready guide to photographic sundries. Everything is clearly illustrated and presented in a simple yet sales-compelling manner. Supplies will be available shortly.

Tie-up with our vigorous advertising campaign!

Nebro Accessories and Ferrania Cameras and Films are consistently advertised in these photo journals throughout the country, read by millions of enthusiastic photographers and holiday snapshotters.

AMATEUR PHOTOGRAPHER
MINIATURE CAMERA MAGAZINE
MINIATURE CAMERA WORLD
PHOTOGRAPHIC JOURNAL
PHOTOGUIDE MAGAZINE
PHOTOGRAPHY
BRITISH JOURNAL OF PHOTOGRAPHY
I.B.P. RECORD

Tie-up with this vigorous campaign by making use of the attractive 5-colour sales-aids that are available in any reasonable quantity. Here is a list of some of the materials supplied.

- Dummy Ferrania Film cartons in 5 sizes up to 20″.
- Cut-out showcards of Ferrania figure in 5 different sizes.
- Money dishes for the counter.
- Real photographs mounted on hardboard.
- Showcards with human interest pictures.
- Photogravure leaflets showing examples of Ferrania Photographs.
- Poster Stamps for Letterheads.
- Stickers and Posters.
- Novelty Ashtrays.
- Technical Data Sheets.

Ferrania display material can form the basis of novel and arresting windows that can be arranged to suit any space available. Write for Leaflet showing some interesting examples. Remember, a £10 prize is offered for the dealer showing the most attractive display.

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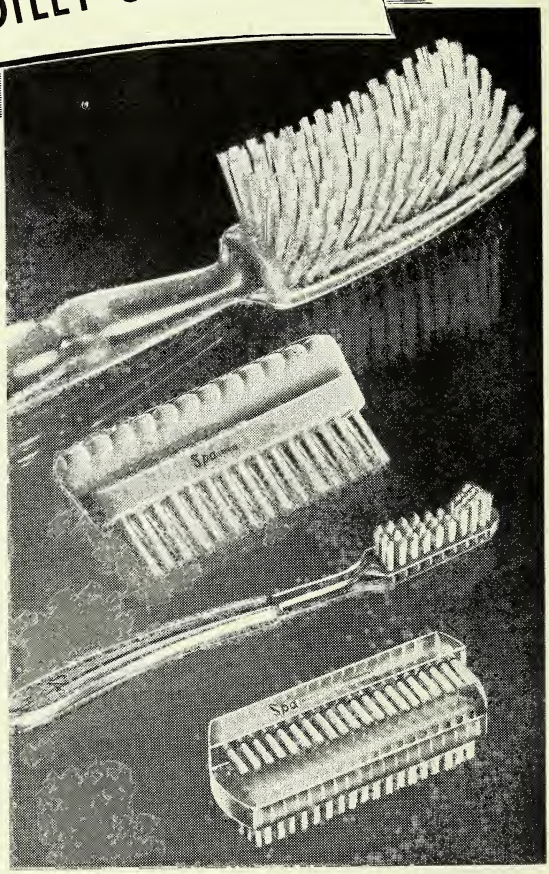

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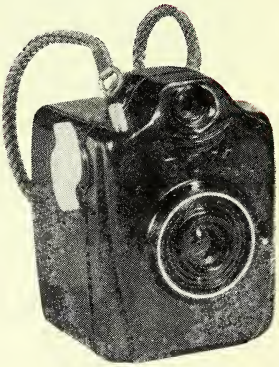
This best-seller in its class will do even better this year at the greatly reduced price of - - - - - - - - **34/5** including carrying strap



Attractive show material available, so why not link up with our advertisements in the photographic press and

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A NEW 5-SPEED RADIX

The RADIX popular 35 mm. camera is now available in a new model. While retaining the well known RADIX simplified action the new camera has a fully synchronised 5-speed shutter.

PRICE (inc. Tax)

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Model L.8

Takes economy-priced 8 mm. films—the increasingly popular size that is gaining thousands of new ciné enthusiasts. It is the world's finest 8 mm. camera. Swiss precision built, yet costing only £59, including a handsome carrying case. Sell it and look forward to profitable follow-on film sales.

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AVAILABLE IN TWO MODELS COVERING ALL THE POPULAR FILM SIZES. Paterson 'Major' with horizontal plus vertical agitation, for 3 roll film sizes, 127, 120/620, 116/616. Paterson '35' for 35 mm. film.

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ttractive leaflets and display material available to stockists from the Manufacturers and World Distributors :—

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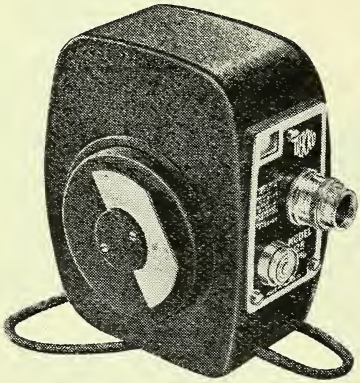
EASY TO SELL BECAUSE IT'S EASY TO USE



Here is just the line to help you develop the photographic side of your business. A new 8 mm. cine-camera specifically designed and priced for the popular market, and the ideal camera for beginners.
Every family is interested in movies at the price of a Dekko, the pocket size cine-camera with no focusing worries. Feature it this season, we can supply if you order now.
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With f/2.5 lens **34 gns.** *inc. P.T.*

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8 mm.
CINE-CAMERA

DEKKO CAMERAS LIMITED
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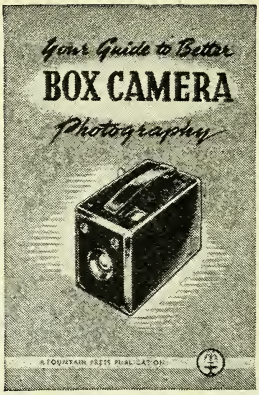

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THE FOUNTAIN PRESS
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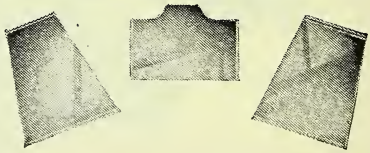

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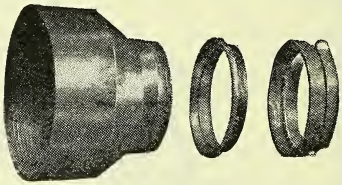

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Kershaw 4 in. f/2·8 lens · Built-in mains switch · All voltages A.C. and D.C. · Fully-rotating head · Forward and reverse action · Micrometer tilt-adjustment.

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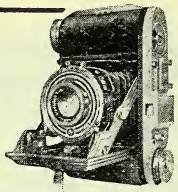

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35 mm

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ROLL FILM (*16 or 8 on*)

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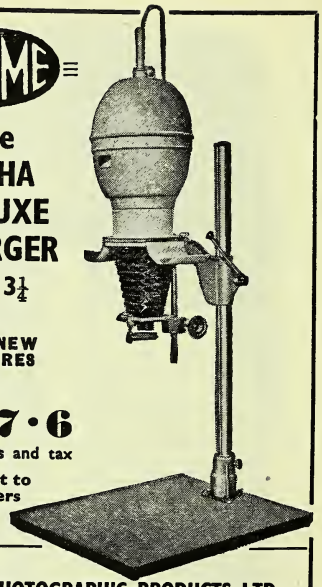

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Takes 16 perfect photographs to a roll

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2¼" × 2¼"

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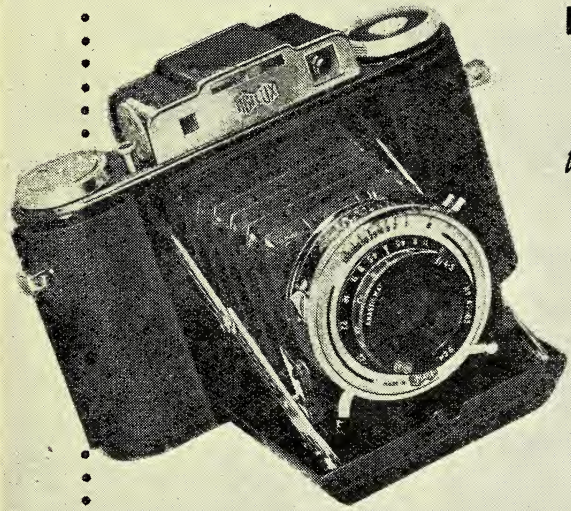
RANGEFINDER

with EXPOSURE METER



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Here's a fine, strikingly handsome, high-precision rangefinder camera that has many features including

- Combined Viewfinder and Rangefinder
- Exposure Meter
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On Monday, 24th March, the retail prices of Pond's Tissue Hankies were fixed as follows :

BOX OF 75 PULLS

REDUCED from 2/3 to 1/6

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Credit will be allowed for the difference in cost price on stocks still unsold at that date.

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Whenever B-complex treatment is indicated the physician will find in the 'Becosym' range a preparation suitable for the purpose. It is issued in stable twin-ampoules, in two strengths of tablets, and as a syrup. The latter is particularly suitable for administration to infants.

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Tablets — bottles of 25, 100 and 500.
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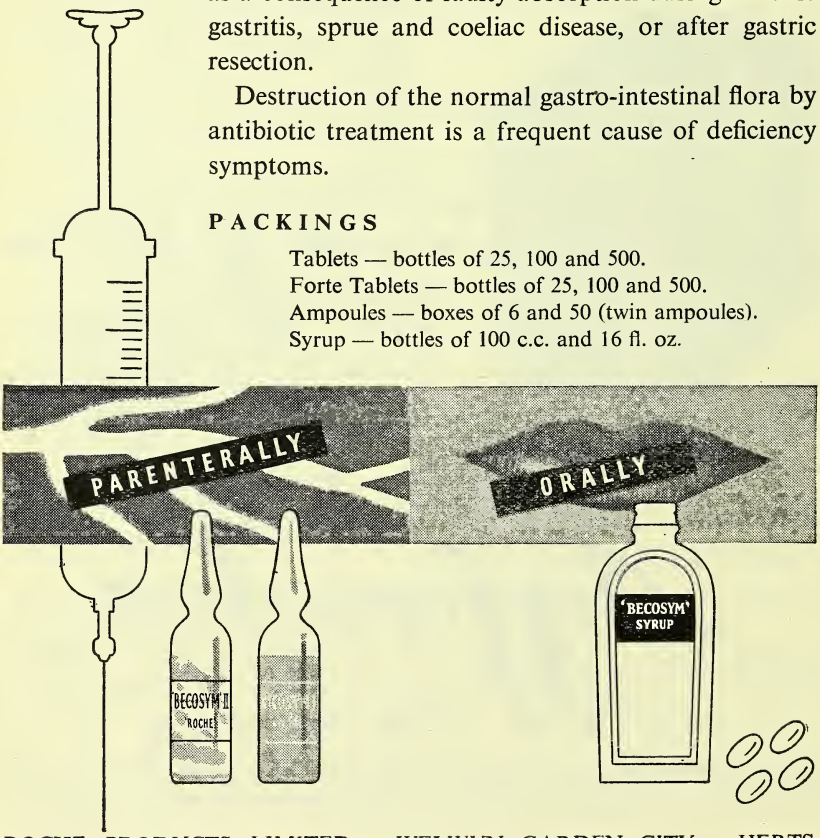
Syrup — bottles of 100 c.c. and 16 fl. oz.



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Derl, the original Hexachlorophene soap, we are happy to inform you, is **SOLD STRICTLY THROUGH CHEMISTS ONLY.**

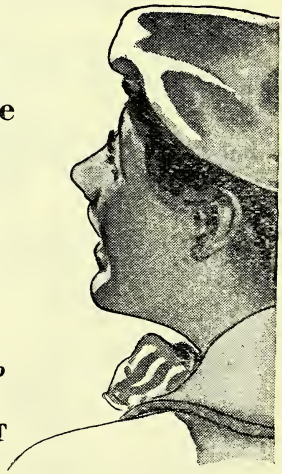
See our representative when he calls and learn more about a product it will pay you to display and sell.

. . . you can recommend this TRIPLE-PURPOSE SOAP with confidence

Derl

The Original HEXACHLOROPHENE Soap

BEAUTY · GERMICIDAL · DEODORANT



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FOR 4 WEEKS

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With every order for one Display Carton containing twelve 5/- size Zytocin Tins, we will send you ***FREE OF CHARGE*** *six 1/11d. size Trial Packs. You may order as many Display Cartons as you wish and the Free issue of Trial Packs will be sent with* ***each*** *carton. Above prices subject to usual trade discount.*

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We send you twelve 5/- tins plus six free 1/11d. Trial Packs. Total Selling Price	71/6
Cost 12 5/- size Zytocin (less trade discount)	42/-
YOUR Profit on this quick selling line ...	29/6

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63 Tablets (full 3 weeks' supply)	5/-
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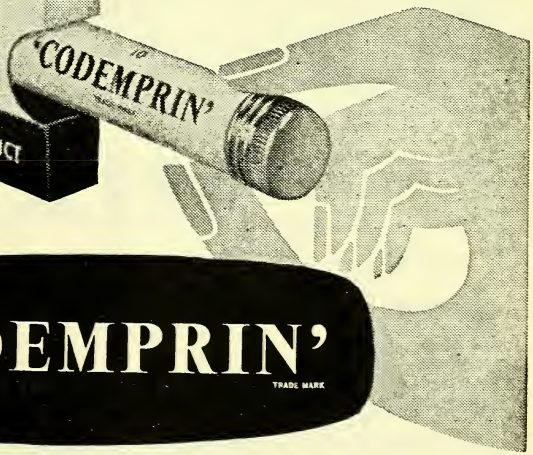
A bonus of 13 to the dozen is offered on orders of 2 dozen.

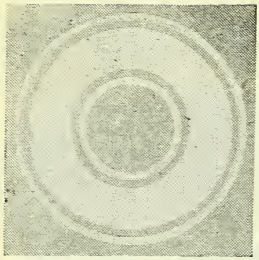
★ **Its price** (1/3 for the tube of 10), **its size** (slips into handbag or pocket) and **its effectiveness** (contains four active ingredients), give 'Codemprin' a special appeal to the customer for whom aspirin is "not enough".



'CODEMPRIN'

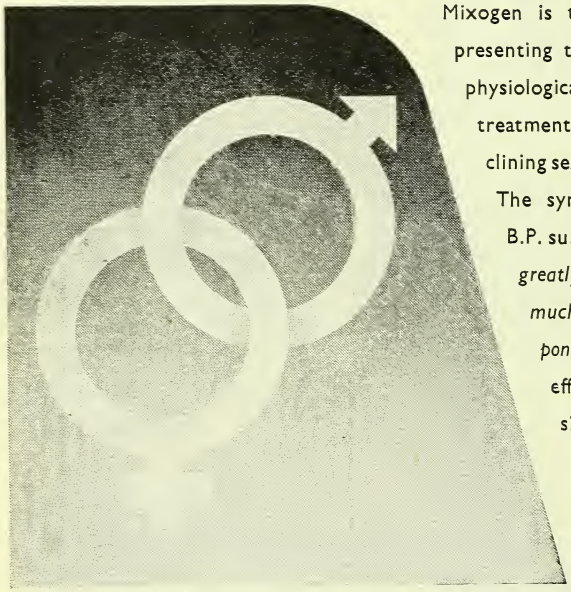
TRADE MARK

BURROUGHS WELLCOME & CO. (The Wellcome Foundation Ltd.) LONDON



NEW ADVANCE

in sex hormone therapy



Mixogen is the new Organon preparation presenting the male and female hormones physiologically balanced in one tablet for the treatment of all signs and symptoms of declining sex hormone function in either sex. The synergistic combination of these B.P. substances confers *beneficial results greatly exceeding any obtainable with much larger doses of either of the components alone*, without the unwanted effects often associated with one-sided sex hormone therapy. The remarkable sense of renewed mental and physical vitality is a notable feature of the treatment.

The tablets are FREELY PRESCRIBABLE UNDER THE N.H.S.

"MIXOGEN" contains 0.0044 mg. ethinylœstradiol B.P. and 3.6 mg. methyltestosterone B.P. in each tablet.

MIXOGEN

Male and Female Hormones in 1 tablet

In Perspex tubes of 25 tablets and in bottles of 100, 250 and 500.
Price List on request.

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Viscardan (Khellin B.D.H.) is indicated primarily in the treatment of angina pectoris and bronchial asthma. Viscardan does not lower the blood pressure or increase the pulse rate; in the treatment of angina pectoris it is about 4 times more effective than aminophylline and its action is more prolonged than that of glyceryl trinitrate.

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For instance, a number of manufacturing chemists are making use of electronics in liquid filling, tablet counting, emulsification, polaregraphy in chemical analysis, detection of faulty products and a number of other applications.

In the April and November, 1952, issues of "ELECTRONIC ENGINEERING" a special supplement entitled "Electronics in Industry" will be published. These two supplements will review the outstanding contributions that electronics have made to industry in the last few years. Practical examples, with illustrations, will be given, many of which can be adapted to solve problems in other trades.

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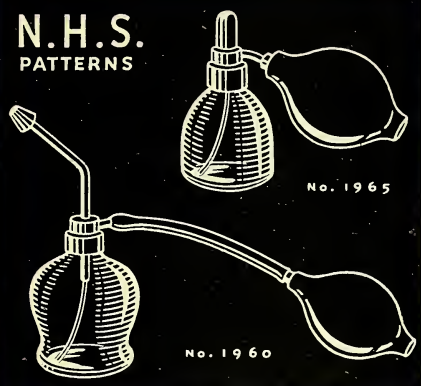

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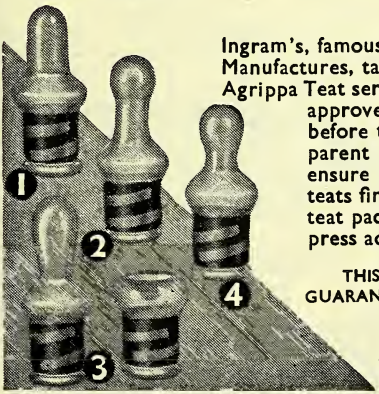

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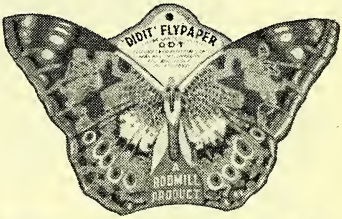

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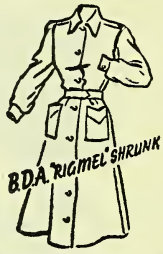

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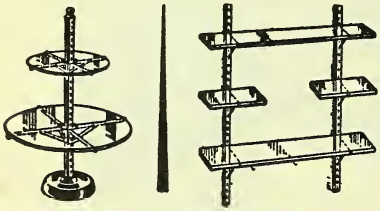
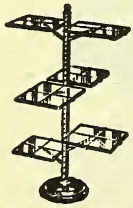


VARY DISPLAY-THE HOKON WAY



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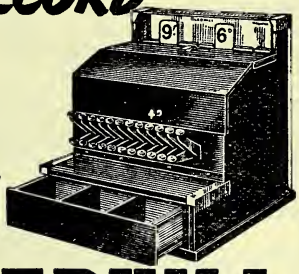

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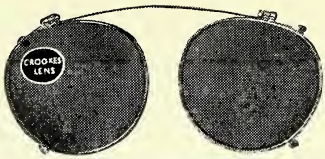

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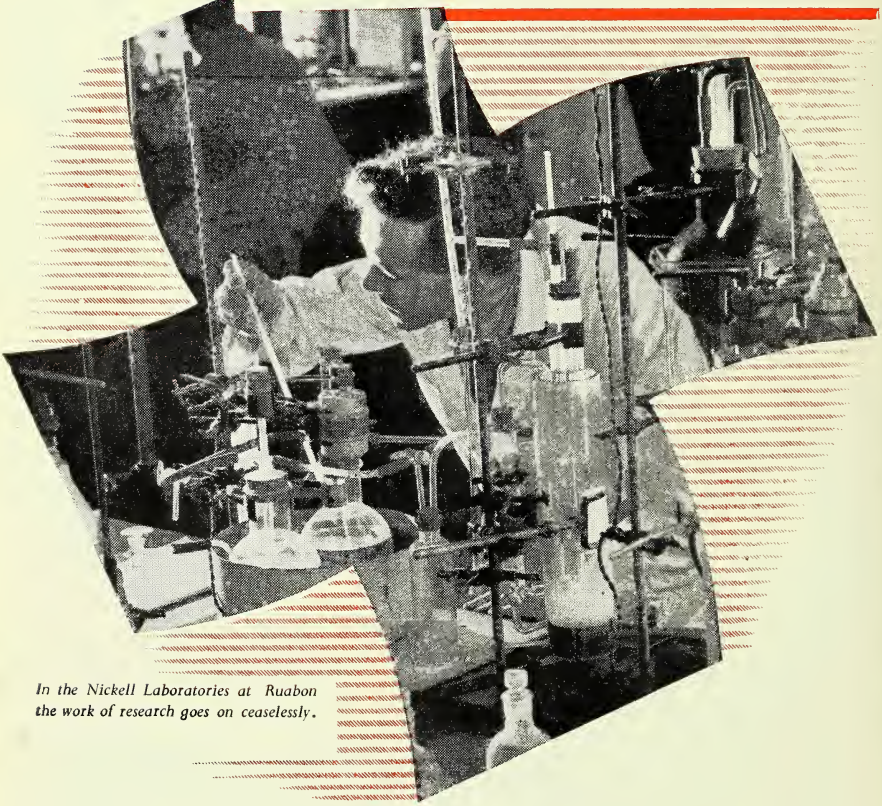

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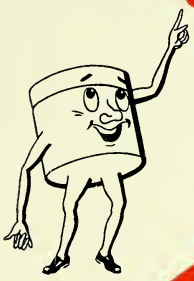

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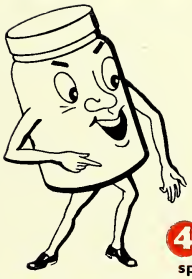

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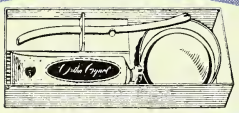

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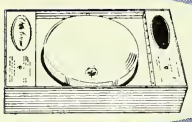

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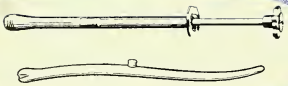

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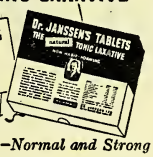

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Dr. Janssen's Tablets are now presented in attractive new packs and outers designed to tie in with national advertising. Display them and share the benefits of this powerful selling campaign.

the laxative★ they're buying

★ NON HABIT-FORMING

This compact display outer contains six large-size packs of Dr. Janssen's Tablets.

Stops Scurf

Page-Barker's

SCURF AND DANDRUFF LOTION

Trade 20/- dozen
Tax one-third
Retail 3/4 P.A.T.A.

Money Back Guarantee on every bottle!

Sole Distributors to the Chemists' Trade—
THOS. CHRISTY & CO. LTD.
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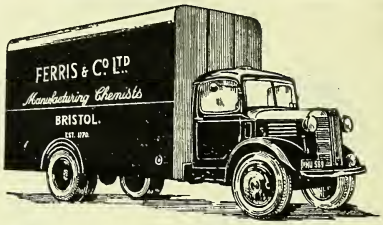
65 MIDDLE ABBEY ST. DUBLIN
Sole makers and proprietors—
THE ILEX SUPPLY CO. LTD.
252b, GRAY'S INN RD., LONDON, W.C.1



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★ Cholelithiasis

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THE CHEMIST & DRUGGIST
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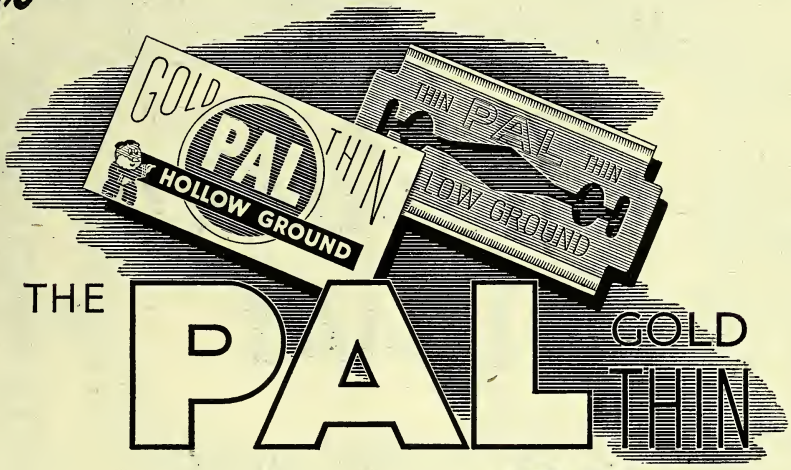
Now– A NEW **PAL** BLADE



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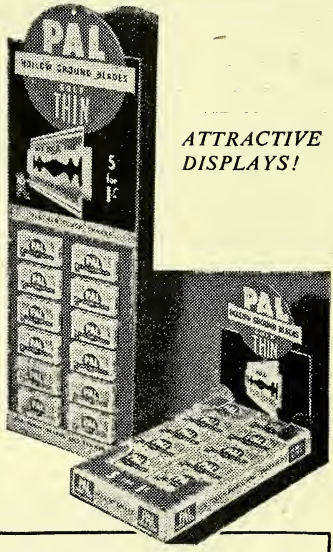

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A new addition to the Pal-Personna range is now ready for distribution—the Pal Gold Thin Blade. Made of high-quality Sheffield steel and hollow-ground like the Pal 'Blue Hollow-ground' blade, it has an exceptionally keen, flexible edge. It is lacquered an attractive, rust-resistant gold colour. As experience in other countries has proved, there is a vast potential market for a Hollow-ground Thin blade. Your customers will welcome it.

Stock up now through your wholesaler, or direct from us. Orders are supplied in these attractive cards and cartons specially designed for your shop.

NEW RETAIL PRICE LIST

		RETAIL
Pal 'Blue Hollow-ground' - -	12 for 2/-	6 for 1/-
Pal Single-edge Blades - - -	10 for 2/-	5 for 1/-
Pal Gold Thin Blades - - - -	- -	5 for 1/-
Personna Precision Blades - -	10 for 2/8	5 for 1/4

PAL PERSONNA BLADES LTD.

103 Mount St., London, W.1. and Hillington, Glasgow

The new Pal Gold Thin blade will be heavily advertised in national daily and Sunday newspapers, leading provincial newspapers, general magazines, on posters, and on public transport. To bring sales into *your* shop, show this sell-out display material for the Gold Thin Blade.

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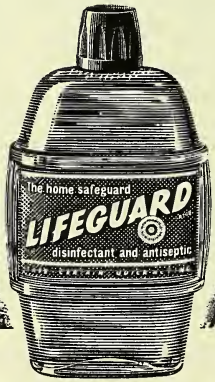
to healthier profits

LIFEGUARD

leads in home protection

THE SUPREME DISINFECTANT



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WAXES of all types and grades
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WATERGLASS

EGG PRESERVATIVE

You can sell Goodall's Waterglass with confidence, knowing full well that it is a first-class product, well-advertised, absolutely reliable in use. It gives a clear and clean fluid and keeps eggs in good condition for approximately two years. With greater supplies of eggs in the shops during the peak months, poultry-keepers will be preserving more of their egg harvest for winter use. This means that you can expect more requests for Goodall's Waterglass, so keep plenty in stock. Tins are completely leakproof so you can store with safety.

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GOODALL, BACKHOUSE & CO. LTD., SOVEREIGN STREET, LEEDS

'CANDA'

'PENS'

Now issued as attractive Plastic Tubes (NOT GLASS) with Plastic Screw Caps

"PEN" BRAND

UNBREAKABLE

IODINE MOSQUITO — RETAIL 1/9 including Tax

ACRIFLAVINE CLEARSIGHT — RETAIL 1/6 (No Tax)

TRADE PRICES
12/- per doz.
11/6 per doz. for 3 doz. (assorted if desired).
Plus 33⅓% Tax on Iodine and Mosquito.

The 'PEN' DISPLAY BOX contains 1 doz.

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Manufacturing Chemists *Est. 1813*

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Reg. Trade Mark.

Dr. J. Collis Browne's Chlorodyne
and
The Pharmacy and Poisons Act, 1933

Dr. J. Collis Browne's CHLORODYNE

SALE RESTRICTED TO REGISTERED CHEMISTS

PURCHASER'S SIGNATURE NOT REQUIRED

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Sole Proprietors:
J. T. DAVENPORT LTD.
UNION ST., LONDON, S.E.1

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NIVEA gets a good window at this well-known Kensington pharmacy. Passers-by cannot fail to be impressed by the galaxy of blue-and-white NIVEA packs admirably supported by NIVEA show material.

Display is your way . . .

TO SELL MORE NIVEA

. . . and earn the Bonus.

BONUS TERMS

£5 orders (excl. tax) for Nivea products earn a bonus of 20 popular 2/6*d*. size Nivea Creme—increasing your profit to 44%. Each extra 10/- earns another 2 tins.

GNT 154

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Volume CLVII

CONTENTS

No. 3762

A Pyrethrum Synergist 460
Births 420
Books, New 459
Business Changes 418
Coming Events 420
Correspondence 449
Deaths 420
Echoes of the Past 442
Editorial Articles :—
Guidance to Doctors 447
The Pharmacist and the Photographic Trade 448
Overseas Trade in February .. 448
End of Steamy Windows in Sight 452
Film Committee of the Society 438
Information Wanted 446
Legal Reports 419
Miscellaneous Inquiries 459
National Formulary, 1952.. .. 450
Newcomer's Notebook 444
New Companies 418
New Products and Packs 424
Overseas Economic Surveys .. 453
P. A. T. A. 424
Pharmaceutical Society of Northern Ireland: Council Meeting .. 451
PHOTOGRAPHIC DEPARTMENT
Cameras and Equipment, 1951-52 425
Camera Salesmanship 443
Developing and Printing Prices 445
Fifteen Years of Pocket-lens Photography 430
Films in Science Teaching .. 438
Getting Good Finisher Service.. 441
Photographic Film 435
Photographic Trade Notes .. 427
Progress in Medical Photography 439
Price Changes 424
Print and Publicity.. 460
Statement on Prescription Levy .. 421
The Week in Parliament 419
Topical Reflections 417
Trade Marks 460
Trade Notes 422
Trade Report 455
Wills 420

NEWS OF THE WEEK

Labelling of Foods.—The Ministry of ood announces that, to achieve economy, ie service of advising manufacturers and ther food traders individually about bels submitted for scrutiny is being iscontinued on April 5. The Ministry will etain its general responsibility for adinistering the labelling requirements nder the Defence Regulations and Food nd Drugs Acts.

Record Low Incidence of Diphtheria.—A statement issued by the Ministry of lealth on March 23 records that there ere thirty-two deaths from, and 699 otifications of, diphtheria in 1951, in ngland and Wales, against forty-nine and 59 respectively in 1950. The figures are he lowest on record. The claim is made hat diphtheria, as an indigenous disease, an be eradicated from this country "within the next few years," provided that there is no slackening in immunisation efforts.

Deputation on Levy. — The Minister of Health (Mr. H. Crookshank) received at the House of Commons, on March 20, a deputation representing the Central National Health Service (Chemist Contractors) Committee and the General Medical Services Committee of the British Medical Association. The difficulties that would be faced by chemists and doctors, particularly in rural areas, in collecting the proposed one shilling charge on prescriptions was explained, and it was agreed that further discussions should take place.

Statutory Committee.—The Statutory Committee of the Pharmaceutical Society is meeting at 17 Bloomsbury Square, London, W.C.1, at 2.30 p.m. on April 2, to

consider information and evidence from which it appears that:—1. Two National Health Service prescriptions were received and dispensed by a member of the Society and were subsequently found to direct the dispensing of quantities in excess of those prescribed by the doctor. 2. A member of the Society appeared to be addicted to alcohol to an extent that made him unfit to take charge of a pharmacy.

Society of Public Analysts. — The seventy-eighth annual meeting of the Society of Public Analysts and Other Analytical Chemists was held in London recently, the president (Dr. J. R. Nicholls) in the chair. Membership of the Society was reported as being now 1,578. The following officers were elected:—*President,* Mr. J. R. Nicholls; *Vice-presidents,* Messrs. R. C. Chirnside, D. W. Kent-Jones and E. Voelcker; *Treasurer,* Mr. J. H. Hamence; and *Secretary,* Mr. K. A. Williams.

Payment on Account.—The Ministry of Health has announced that the monthly payment on account to a chemist contractor (not being under contract for the supply of surgical appliances only) in respect of each prescription dispensed in March 1952, and until further notice, will be based on the chemist's average total cost per prescription (including container allowance, but excluding specially priced expensive prescriptions) for March 1951, as certified by the Pricing Office, increased by the appropriate amount shown in the following scale (the average cost per prescription dispensed in March 1951 is followed by the increase now allowed per prescription):—Under 2s. 10d., 2d.; 2s. 10d. to under 3s. 11d., 3d.; 3s. 11d. to under 5s., 4d.; 5s. to under 6s. 2d., 5d.; 6s. 2d. and over 6d. The calculation of the payment on account will be made on 90 per cent. of the adjusted average, rounded up or down to the nearest penny, subject to a minimum of 2s. Minimum payment to new contractors will be 2s. per prescription. Quarterly payments on account to dispensing doctors paid in accordance with the Drug Tariff, which include payments for prescriptions dispensed in March and subsequently, will also be adjusted.

Doctors' N.H.S. Pay Increased.—The Minister of Health (Mr. H. Crookshank) announced in the House of Commons on March 25 that the size of the central pool from which National Health Service doctors are remunerated, for the year ended March 31, 1951, would be £51,252,00 (an increase of £9,719,000). The awar might involve an additional charge c £40 millions on the Exchequer for 1952 53. The announcement follows a recen adjudication between the British Medica Association and the Ministry of Healt On average the increase in each N.H.S doctor's remuneration would be £500 year. The adjudicator was asked to de termine the size of the central pool c money which is distributed to genera practitioners as remuneration, taking int account changes in values since 1939, pa increases in other professions, and othe relevant matters, so as to give effect to th [pre-National Health Service] recommenda tions of the Spens Committee.

LOCAL NEWS

Events in West London.—At a recen meeting of the West London branch of th National Pharmaceutical Union, Mr G. H. M. Graham (a member of th N.P.U. Executive), in an address entitle "EC10's and their Problems," stressed th importance of annotating any prescriptio where there was any doubt as to what th prescriber had written, so that the correc amount would be paid. The absence c dispensing by the doctors was, he said, th cause of their losing touch with presen day price tends.—At a recent meeting c the Western Pharmacists' Association, raffle raised £10 which was sent to th Pharmaceutical Society's Benevolent Func

Wine Licence Applications.—At loca licensing sessions recently the followin were granted licences to sell wines at phar macies:—Mr. S. Holt, Oldham, Lancs The Springhill Pharmacy, Penn, Wolver hampton; and Miss Elsie Standish, Acc rington, Lancs. The following were gran ted licences to sell medicated wines:—James Beattie, Ltd., Wolverhampton Messrs. W. S. Blundell, Blackpool, Lancs A. Greenwood, Blackpool; T. Wilkinson Blackpool; R. L. Cardwell, Blackpool C. H. Quinn, Blackpool; J. E. Rushton Milnthorpe, Westmorland; and D. R Kaye, Willaston, Wirral, Ches. J. H. Hurs (Chemists), Ltd., Codnor, Derbys, wer granted a spirits off-licence. The follow ing applications were refused:—Brightsid & Carbrook Co-operative Chemists, Ltd (for medicated wines at their Bellhous Road, Sheffield branch); Mr. E. B. Holt Glodwich, Oldham (for a spirits off licence); and Mrs. M. C. Daye, Cwma man, Glam (for a wines and spirits licence)

SCOTTISH NEWS

Pharmaceutical Development Scheme.—Glaxo Laboratories, Ltd., Greenford, Middlesex, announce that they propose to acquire land and buildings at Montrose, Angus, Scotland, for the development of new processes for pharmaceutical products, based upon original work done in the research division of the company.

No Rota Scheme for Aberdeen.—Aberdeen Executive Council agreed at a meeting on March 10 that the necessity for a chemists' rota service scheme in Aberdeen had not been established. It was pointed out that although a meeting of Aberdeen chemists had, by a majority, favoured a rota scheme, there had been a relatively small attendance at the meeting and, in fact, only a minority had voted for the scheme.

Perth Chemists Honoured.—Two Perth chemists who have, between them, been in pharmacy for more than 100 years, were given a complimentary dinner by Perthshire Pharmacists' Association in Perth, on March 19. They were Mr. John Brydon, Letham Road, Perth, who for more than fifty years was in business in South Methven Street, and Mr. Alex. Macgregor Dunning, who carried on business in the Craigie district. Over forty members and wives from Perth, Coupar Angus, Crieff and Auchterarder attended the dinner. Mr. George Murray (president of the Association) was in the chair.

IRISH NEWS

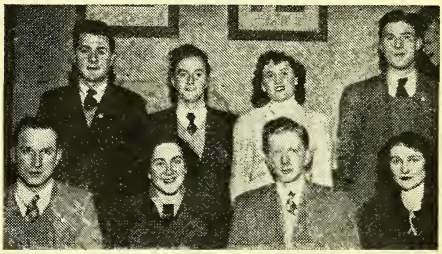
Publicity for Athletic Club.—An article on the Dublin College of Pharmacy Gaelic Athletic Association Club appeared in the Dublin "Evening Herald" on March 1. It included a picture of Mr. T. J. Banks, M.P.S.I., Dublin, a pioneer member of the club.

Northern Ireland Film Show. — Films on the preparation of diphtheria antitoxin, insulin, and digitalis, were shown to members and associates of the Pharmaceutical Society of Northern Ireland at a meeting in Belfast on March 24. In the absence of the president (Mr. H. W. Gamble), the vice-president (Mr. W. H. Boyd), presided.

Ulster Benevolent Fund Whist Drive.—A substantial sum of money was raised for the Northern Ireland Chemists' Benevolent Fund by a whist drive organised by the Ulster Chemists' Association in Belfast, on March 19. The prizes presented by the president (Mr. W. R. McNabb), manufacturers and wholesalers, were distributed by Mrs. J. Caldwell (wife of Mr. J. Caldwell, a member of the Executive Committee of the U.C.A.).

Society's New Building a "Cornish Mansion."—Members of the Council of the Pharmaceutical Society of Ireland learned recently that their newly acquired building at Shrewsbury Road, Ballsbridge, Dublin, is an architectural replica of the Treloyhan Manor Hotel, St. Ives, Cornwall. Mr. F. W. Parkes, whose father built the premises originally, informed the registrar that his father was so impressed with the architecture of the Cornwall building that he commissioned his architect to design an exactly similar mansion for him at Ballsbridge. A booklet of the Treloyhan Manor Hotel confirms Mr. F. W. Parkes' story.

N.I. Hospitals Authority.—The annual report of the Northern Ireland Hospitals Authority for the year ended March 31, 1951, just issued, states that hospital management committees have been recommended to appoint pharmaceutical committees to consider: (1) Methods and procedure used in the purchasing of drugs and dressings; examination of existing contract arrangements. (2) Arrangements for dispensing. (3) Storage arrangements and safety precautions. (4) Value of stocks in hand of different drugs, and whether such stocks are reasonable having regard to the nature and work of the hospital. (5) The extent to which proprietary drugs are being prescribed and consideration of reputed therapeutic equivalents. (6) The prescribing of specially expensive drugs.



EIRE STUDENTS' ASSOCIATION. This year's council: Mr. P. S. O'Briain (treasurer), Miss Rose Murphy (secretary), Mr. Jos. Cahill (president), Miss Eileen Healy (assistant secretary), and (standing) Messrs. M. Shannon and John O'Beirne, Miss Dorothy O'Grady and Mr. Seamus Quinn.

BRANCH AND ASSOCIATION MEETINGS

Council Member's Call for Unity.—A meeting of the Coventry and Warwickshire Branch of the Pharmaceutical Society in Coventry recently heard Mr. T. Heseltine (a member of the Society's Council) give an address on "Current Affairs." The speaker touched on many aspects of pharmacy and outlined the latest developments in education, apprenticeship, law, benevolence, finance, etc. He expressed his faith in the future of pharmacy and called for unity in all branches of the profession.

Society's Inspector at Plymouth.—At a meeting of the Plymouth Branches of the Pharmaceutical Society and National Pharmaceutical Union held in Plymouth recently, Mr. F. C. Smith (chairman, Society Branch) presiding, Mr. T. R. Morris (an inspector of the Society) gave an address on "Legal Requirements and the Pharmacist." Among the matters he mentioned were drug sales, qualified supervision, scheduled poisons and pharmacy superintendents. He stressed that locums should display their certificates of registration when taking charge.

Gosport Joint Meeting.—A joint meeting of the Portsmouth Branches of the Pharmaceutical Society and National Pharmaceutical Union was held at Gosport (for the benefit of members from Gosport and Fareham) on March 13. There was an attendance of forty. Miss X. Darling (vice chairman of the N.P.U. branch) presided and Mr. D. W. Hudson (a member of the Society's Council and of the Executive of the Union) gave an address on "Pharmaceutical Organisations and Their Service to the Practising Pharmacist." He gave an account of the constitution and workings of the various committees and subcommittees connected with the Society, the Union, the Chemists Federation and the Proprietary Articles Trade Association. A discussion followed.

Record Attendance at Croydon. — A record attendance of more than 160 at a meeting of the Croydon Pharmacists' Association and Branch of the Pharmaceutical Society held recently, heard an address by Mr. A. Aldington, M.P.S., A.R.P.S. (vice-president, Photographic Dealers' Association). Mr. Aldington said that about 75 per cent. of the Association's members were pharmacists, and he held that photographic dealing was the "pharmacist's birthright." He outlined the aims of the P.D.A. in regularising trade in photographic goods. Just before the war, he continued, the P.D.A. had inaugurated an examination scheme to give dealers a status on passing an examination. Entries for the 1952 examinations promised to be the heaviest ever. Mr. Aldington described the Association's "vigilance on profit margins," and its regular negotiations with manufacturers and wholesalers to maintain fair trading principles. He referred to recent work done on behalf of the small dealer and the finisher in trying to awaken interest in winter photography. After the address, Mr. F. G. Newmarch, F.R.P.S., gave an exhibition of 16-mm. colour films.

Harrow Films and Discussion.—Harrow Branch of the Pharmaceutical Society, at a recent meeting, saw the films "Birth of a Drug," and "Dressing Technique for large Wounds, particularly Burns." There followed a discussion on the proposed shilling levy on prescriptions. The chairman (Mr. H. W. Tomski) reported that a letter expressing opinions of a January meeting of the Branch had been sent to the Council of the Society pointing out that it would be a direct tax on ill-health. Mr. R. Goode said that one of the duties of the Society was to see that pharmacists could provide and maintain a pharmaceutical service without restriction of their professional practice. The introduction of "tax collection" would interfere with that right. The levy was a direct betrayal of a "free health service." Mr. L. F. Kitch said that the Society should not concern itself with a political issue, and Mr. F. E. W. Gibson thought the matter should be left to the National Pharmaceutical Union. Miss M. E. Plear disagreed, for, she pointed out, the N.P.U. did not represent hospital pharmacists. Mr. B. D. Cameron's opinion was that, under the Charter for safeguarding the professional rights of pharmacists, the Society should see that its members were not laid open to the "inevitable blame" for faults in administration that the collection of the tax could bring upon them. Finally Mr. R. Goode proposed the following motion to be sent to the Council of the Society:—

"In the public interest, and in the best interests of a pharmaceutical service, there should be no charge to the sick person, neither should the relationship between the public and the pharmacists be jeopardised by the introduction of tax collection."

Mr. H. M. Foskett seconded the motion, which was carried.

TOPICAL REFLECTIONS

That Drug Bill

Your report on p. 387 of a speech by the Minister of Health includes the acceptable announcement that a periodical bulletin on the cost of National Health Service prescribing is being circulated to practitioners (see also p. 447). The Minister's remark that the drug bill has got out of control brings vividly before us the situation with which we are confronted. Writing before the second reading in the House of Commons of the National Health Service Bill, I cannot guess what its contents will be at the end of the debate. Every thoughtful citizen agrees that the drug bill must be reduced. If it increases Britain will be on the way to becoming a nation of hypochondriacs. The statement on drug costs issued by the Association of British Pharmaceutical Industry is unexceptionable. In booklets prepared for the information of the medical profession that reach me from time to time I have never found any departure from objective, factual treatment. It is true that a large number of possible uses for each new product are usually set forth; but experienced practitioners can quickly decide on the probabilities of good results in each case. One source of the present costing trouble is, I suggest, the tendency of up-to-date physicians to go straight to antibiotics without troubling about older remedies. As pharmacists know, antibiotics can be very expensive; in this respect the new bulletin should be useful. On another page of your issue of March 22 you give the address of the Ministry, for the purposes of correspondence, as Savile Row, W.1. A Ministry installed in what has long been the headquarters of British tailoring should be able to cut its garment according to its cloth.

Techniques of Medication

One of the most concentrated (and therefore most instructive) articles in your Refresher Course appears on pp. 405-06. It describes various methods of preparing and administering antibiotics. All of us will be wise to keep *au courant* of what is being done in this extensive field. Many, perhaps most, of your readers can remember the excitement caused by the news of the isolation of insulin by Banting in Canada. So far as I have traced, the first announcement of this event to the British drug and chemical industries appeared in THE CHEMIST AND DRUGGIST of November 25, 1922. Arrangements were made in this country by the Medical Research Council, in association with three of our leading manufacturing houses, for supplies on a commercial scale; and on April 12, 1923, the first consignment of British-made insulin was distributed to several of the principal London and provincial hospitals. This event has been recalled here in order to emphasise the progress made in the discovery and clinical applications of antibiotics during the past thirty years. (Insulin is given a paragraph to itself, by the way, in your contributor's article.) I commend this excellent "refresher" to the attention of the qualified and to students.

Weights and Measures

The Parliamentary announcement (p. 387) that the President of the Board of Trade had not then completed "consideration of the numerous recommendations in the report of the Committee on Weights and Measures Legislation" was supplemented by the statement that interested parties would be consulted. Apropos of discussion on the use of the metric system, the legislative changes that the system has undergone in this country may be briefly noted. The feasibility of its introduction was discussed in the House of Commons in 1816, when a motion for comparing the standard yard with the standard metre was carried. That investigation was undertaken by the Royal Society. Not till 1864, however, was the use of metric weights and measures made legal for trade purposes. A reversal of policy resulted in the cancellation of this sanction in the Weights and Measures Act of 1878, though a table of equivalents formed the Third Schedule of that Act. In 1897 the Weights and Measures (Metric System) Act again legalised metric weights and measures. The Schedule to an Order in Council made in the following year gave new equivalents for the pound and the kilogram. Whether the history of this subject in the second half of the twentieth century is to be as diversified as the corresponding history in the second half of the nineteenth century will be seen as time goes on. Frequent changes in a subject that is scientific, technical and commercial are undesirable. Some expert can perhaps tell us why temperatures for testing proof spirit are, in the new Customs and Excise Bill (p. 393), 50° and 51° Fahrenheit.

Xrayser

NEW COMPANIES

D. B. Goodall, Ltd. (P.C.).—Capital £1,000. To acquire the business of a chemist and optician carried on by Douglas B. Goodall. M.P.S., at 28 Vale Road, Rhyl. Douglas B. Goodall and Mildred F. Goodall, directors.

H. N. Walton, Ltd. (P.C.).—Capital £1,000. To acquire the business carried on at 391 Manchester Road, Astley, Lancs, by Harry N. Walton, M.P.S., and to carry on the business of retail chemists, etc. H. N. and Dorothy Walton, directors.

Amrus (Chemicals), Ltd. (P.C.).—Capital £100. To acquire the business of Amrus (Chemicals), Co., 465 Commercial Road, London, E.1. Dr. Gordon J. Ambrose, Dennis M. Ambrose and Bernard B. Russell, directors. R.O.: 3 Broad Street Buildings, Liverpool Street, London, E.C.2.

Charles Lefton, Ltd. (P.C.).—Capital £100. Objects: To carry on the business of manufacturers of and dealers in chemicals, gases, drugs, medicines, etc. Charles Lefton, Ph.C., 48 Cleveland Gardens, London, N.W.2, and Henry M. Passer, subscribers. Charles Lefton is the first director.

Parkersell Manufacturing Co., Ltd. (P.C.).—Capital £100. To carry on the business of dispensing and analytical chemists and druggists, etc. David D. Sellon and Henry I. Parker, subscribers. First directors are to be appointed by the subscribers. R.O.: 2 Guildhall Chambers, 31 Basinghall Street, London, E.C.2.

W. & D. Lloyd George, Ltd. (P.C.).—Capital £100. Objects: To acquire the business of W. & D. Lloyd George carried on at 63 Whitehorse Road, Croydon, and to carry on the business of wholesale and retail chemists, etc. Daniel Lloyd George, M.P.S., and Winifred E. George, M.P.S., directors.

Gyl Chemicals, Ltd. (P.C.).—Capital £10,000. To carry on the business of manufacturers of and dealers in chemicals of all kinds, etc. Norman Ratcliffe and Roland Ball, subscribers. The Geigy Co., Ltd., and Ilford, Ltd., may each appoint an equal number of directors. First directors are not named. R.O.: National Buildings, Parsonage, Manchester, 3.

Company News

Allen & Hanburys, Ltd.—The company are to seek the consent of the Treasury to increase the authorised capital to £1 million. An issue of new ordinary shares is to be offered to existing holders on terms to be announced.

Raimes, Clark & Co., Ltd.—Mr. C. C. Cumming, B.A.(Cantab.), M.P.S., managing director of the company, was elected chairman upon the retirement of Mr. John G. Fraser, recently.

Hilger & Watts, Ltd.—Accounts for the year ended September 30, 1951, show a net surplus of £37,118 (against £35,373 in the previous year). Trading surplus was £162,006 (against £145,528). A dividend of 7½ per cent. is to be paid.

F. W. Hampshire, Ltd.—A final dividend of 10 per cent. on ordinary and A ordinary capital plus bonus of 6⅔ per cent. (both same) making 23⅓ per cent. (same) for year ended December 5, 1951, is announced. Profit is £150,818 (£128,446).

Voluntary Liquidations

British Export Trade Research Organisation, 48 Dover Street, London, W.1. Liquidator: Mr. T. D. Allison, The Dell, Mill Lane, Gerrards Cross.

North Eastern Chemicals, Ltd., chemical manufacturers, 2 St. Nicholas Buildings, Newcastle-on-Tyne, 1. Liquidator: Mr. J. Hutchinson, 1 St. Nicholas Buildings, Newcastle-on-Tyne.

Harold Eley (Chemists), Ltd., retail chemists, 48 Dads Lane, Kings Heath, Birmingham, 13. Liquidator: Mr. H. W. Eley, 163 Ravenhurst Road, Harborne, Birmingham, 17.

BUSINESS CHANGES

Calmic, Ltd., Crewe Hall, Crewe, are temporarily transferring the company's administrative offices in London to Crewe.

Mr. John Ward, M.P.S., has taken over the business of P. Mason Chemist, Ltd., 61 Baxtergate, Whitby, Yorks.

Mr. Nicholas A. Herdman, M.P.S., has been appointed technical sales manager of The Distillers Co. (Biochemicals), Ltd., Speke, Liverpool, 19.

Thomas Morson & Son, Ltd., are removing their order and invoice department to their Summerfield Chemical Works, Wharf Road, Ponders End, Enfield, Middlesex, on April 15. The export, sales, and accounts departments will remain at 47 Grays Inn Road, London, W.C.1.

THE WEEK IN PARLIAMENT

By a Member of the Press Gallery, House of Commons

Mr. P. Thorneycroft (President of the Board of Trade) told Mr. G. D. N. Nabarro on March 18 that in 1952 no census of distribution forms will be issued. In the census of production to be taken in 1953, sampling will be introduced for the first time and the questions will be fewer than in any previous census.

Restricted Pharmaceutical Exports

Mr. J. D. R. T. Tilney asked the President of the Board of Trade on March 20 "whether he is aware that as a result of the present restrictions affecting the import of essential pharmaceutical products from the United Kingdom into Hong Kong, a considerable volume of our export trade in these commodities is lost to Canada and countries from the Continent of Europe to whose exports the restrictions do not apply and whether, in view of the consequent impairment of our permanent trading position in the Colony, he will take steps to secure that these restrictions are either made to apply equally to the same classes of goods irrespective of the country of origin, or else are suspended until such time as the object in imposing them can be achieved through effective international collaboration."

Mr. P. Thorneycroft: The limitation of the United Kingdom pharmaceutical exports referred to applies only to the very limited range of pharmaceutical products which we regard as being of strategic importance. I am aware that the purpose of our policy is to some extent being frustrated by supplies from other producing countries. We are seeking a greater measure of international collaboration which would obviate this, but I cannot agree to relax our own restrictions meanwhile.

Restricted Imports of a Proprietary

Mr. D. T. Jones asked the Minister of Health on March 20 "whether he is aware that the makers of the Roter tablets claim curative qualities for this product, and whether, in view of the conflict of medical opinion between his medical advisers and those of the firm, he will permit a large-scale test to be made."

Miss Hornsby-Smith (Parliamentary Secretary) replied: The claims made by the manufacturers of this product are not, I understand, accepted by the competent authorities in the country of origin. The Minister would not, therefore, feel justified in arranging such a test.

On the following day Mr. Jones asked whether the Minister would reconsider his decision not to remove the restriction on the import of Roter tablets from Holland. He was referred to a previous reply on the subject.

Dangerous Drugs Prosecutions

The Home Secretary (Sir David Maxwell Fyfe) told Mr. Norman Dodds on March 20 that the number of convictions under the Dangerous Drugs Acts for the years 1949 and 1950 were 159 and 147, respectively. The provisional figure for 1951 is 234. Some of the increase in convictions was due to increased vigilance on the part of the Police, Customs, and Dangerous Drugs Inspectorate. There is no sign of widespread illicit traffic.

Report on Insulin

Mr. P. Thorneycroft (President of the Board of Trade) told Mr. Leslie Hale on March 20 that he hoped to receive the Monopolies Commission's report on insulin later in 1952.

LEGAL REPORTS

"Nectar" not Registrable in Eire.—The Controller of Industrial and Commercial Property in the Republic of Ireland recently refused registration of the word Nectar as a trade mark for wines, spirits and liqueurs. The applicants were Gonzalez, Byass & Co., Ltd., vintners, London, whose counsel stated that the trade mark Nectar had been registered in England since 1886. Objection was made on the ground that the word had direct reference to the character or quality of the goods.

No *Prima Facie* Case.—Liverpool magistrates, on March 21, decided that there was no *prima facie* case against a doctor and a chemist accused of defrauding the Ministry of Health by means of false prescriptions. The defendants were Dr. J. Mansour, Merrilocks Road, Blundellsands, and Mr. Eric Wild, managing director of Symes & Co. (1928), Ltd., chemists, Hardman Street, Liverpool; both were discharged. For Mr. Wild it was stated that all the patients on Dr. Mansour's register were N.H.S. patients and any supplies obtained had been for their benefit.

BIRTH

NASH.—At Jessop Hospital, Sheffield, on March 20, to Joan, wife of Peter G. Nash (Midland representative, Burgoyne Burbidges & Co., Ltd.), 43 Norfolk Park Avenue, Sheffield, 2, a son.

DEATHS

GARDINER.—On March 7, Mr. Gordon Gardiner, M.P.S., Brimlaw, London Road, Tonbridge, Kent, aged fifty-two.

GUNTER.—On February 29, Mr. William Charles Lloyd Gunter, M.P.S., 111 Booth Street, Handsworth, Birmingham, 21, aged fifty-four.

HESELTINE.—On March 13, Mr. Michael Heseltine, C.B. (formerly registrar of the General Medical Council), aged sixty-five.

MALE.—On March 3, Mr. Trevan Bersey Male, 17 Stronden Road East, Bournemouth, aged eighty-one. Mr. Male qualified as a chemist and druggist in 1891.

SCHMEIDLER.—In an air crash at Frankfurt, Germany, on March 22, Mr. Josef Schmeidler (general manager, Camden Chemical Co., Ltd., 61 Gray's Inn Road, London, W.C.1), aged fifty-eight. A graduate in pharmacy of Berlin University, Mr. Schmeidler came to England in 1938 because of the political situation in Germany, leaving business interests in Berlin. He later travelled extensively for Camden Chemical Co., Ltd. He lost his life on the return flight from a business trip in Italy.

WILSON.—Recently, Mr. John Hain Wilson, M.P.S., 9 Earle Street, Crewe, Ches. Mr. Wilson qualified in 1920.

WILLS

MR. E. R. BAINES, Ph.C., 112 West Parade, Lincoln, left £5,977 (£5,145 net).

MR. D. C. JONES, M.P.S., 61 High Street, Ware, Herts, left £16,190 (£14,641 net).

MR. D. M. B. REES, M.P.S., 238 Holton Road, Barry Dock, Glam, left £13,153 (£12,721 net).

MR. P. E. HUDSON, M.P.S., 98 Norfolk Street, Wisbech, Cambs, left £27,318 (£14,501 net).

MR. A. S. WHITBY, M.P.S., Stonecot, Hurstpierpoint, Sussex, left £1,583 (£1,527 net).

MR. N. W. WAGSTAFFE, M.P.S., 21 Hesketh Drive, Southport, Lancs, left £1,947 (£1,874 net).

MR. J. F. BUTLIN, M.P.S., 146 Westcotes Drive, Leicester, left £5,117 (£5,024 net).

MR. H. A. BOYD, M.P.S., 214 Skipton Road, Colne, Lancs, left £2,351 (£1,872 net).

MR. J. SINGLETON, M.P.S., 23 Aberford Road, Oulton, Leeds, left £1,108 (£1,063 net).

MR. R. B. MORSE, Ph.C., 29 Danvers Street, London, S.W.3, left £2,822 (£2,710 net).

COMING EVENTS

Monday, March 31

BRITISH PHARMACEUTICAL STUDENTS' ASSOCIATION, University of Nottingham, Nottingham, at 4.30 p.m. 1952 Annual conference opens. (Closes April 4.)

Wednesday, April 2

NORWICH BRANCH, PHARMACEUTICAL SOCIETY, Y.M.C.A., St. Giles' Street, Norwich, at 7.15 for 7.45 p.m. Annual meeting.

WEMBLEY CHEMISTS' ASSOCIATION, and BRANCH, Oldfield Hotel, Greenford, Middlesex, at 7.30 p.m. Dance.

BOLTON PHARMACEUTICAL ASSOCIATION, Aspin Hall, Bolton, at 6.30 p.m. Annual dinner and dance.

Thursday, April 3

DURHAM BRANCH, PHARMACEUTICAL SOCIETY, Royal County Hotel, Old Elvet, Durham, at 7.30 p.m. A representative of Evans Medical Supplies, Ltd., on "The Story of Antitoxins."

EPSOM AND SUTTON BRANCH, PHARMACEUTICAL SOCIETY, White Hart, Ashley Road, Epsom, Surrey, at 8 p.m. Annual meeting. Mr. F. C. Highfield (Society's Inspector) on "Pharmaceutical Observations."

BEDFORDSHIRE BRANCH, PHARMACEUTICAL SOCIETY, Kingsfare Restaurant, King Street, Luton, at 7.30 p.m. Annual meeting. Address by Mr. W. R. Roberts (Society's chief inspector).

LONDON BRANCH, GUILD OF PUBLIC PHARMACISTS, 17 Bloomsbury Square, London, W.C.1, at 7 p.m. Mr. A. W. Bull (Boots Pure Drug Co., Ltd.) on "The Birth of a New Drug—The Pharmacist."

SOUTHAMPTON HOSPITAL NURSING AND COMPLETE HEALTH SERVICES EXHIBITION, Blighmont Drill Hall, Southampton. Until April 9.

PHYSICAL SOCIETY, EXHIBITION OF SCIENTIFIC INSTRUMENTS AND APPARATUS, Royal College of Science Main Building, Imperial Institute Road, London, and Huxley Building (opposite Science Museum) Exhibition Road, London, S.W.7, opens (members only on morning and afternoon April 3. Exhibition closes April 8).

SHEFFIELD BRANCH, PHARMACEUTICAL SOCIETY, Cutlers' Hall, Sheffield, at 8 p.m. Annual dinner and dance. Dance only ticket 7s. 6d.

Friday, April 4

EXETER BRANCH, PHARMACEUTICAL SOCIETY, Large Hall, Providence Methodist Church, Exeter, at 7.30 p.m. Miss Wendy Fosh (Ford Colour Studio), on "Colour Photography." Illustrated by colour slides.

HULL CHEMISTS' ASSOCIATION AND BRANCH, Imperial Hotel, Hull, at 8 p.m. Annual meeting.

SOUTH-WEST LONDON CHEMISTS' ASSOCIATION and BRANCH, A. J. Carpenter's Restaurant, 3 The Pavement, London, S.W.4, at 7.45 p.m. Dr. H. Davis (chief pharmacist, Ministry of Health) on "National Health Service Topics."

SCOTTISH DEPARTMENT, PHARMACEUTICAL SOCIETY, North British Hotel, Edinburgh, at 6.45 p.m. for 7.15 p.m. on April 16. Centenary dinner. Tickets 21s. from Dr. D. McCall, 36 York Place, Edinburgh, 1.

STATEMENT ON PRESCRIPTION LEVY

THE Central N.H.S. (Chemist Contractors) Committee has issued the following statement on the proposed shilling levy on prescriptions:—

Some progress has been made towards finding acceptable solutions to the problems affecting pharmacists, which would arise under the proposed prescription levy scheme as originally announced. Discussions have been proceeding between the Central N.H.S. (Chemist Contractors) Committee and the Ministry of Health and, in addition to the normal direct contacts between the Department and the contractor chemists' representatives, joint representations have been made by the General Medical Services Committee of the British Medical Association and the Committee on matters of common interest. The joint representations were made when the Minister of Health received a deputation on March 20 and in a further discussion with officials of the Ministry, led by Miss E. M. R. Russell-Smith, on March 25.

The aspects of the levy scheme on which there have been recent developments are as follows:—

(1) *Rural Areas.*—In rural areas where chemist contractors supply medicines to households with which they have no direct contact, members of the public will have the option of paying the levy by means of a postage stamp affixed to the prescription form. The scope of this alternative arrangement will be strictly limited to those cases where neither the prescription nor the dispensed medicine passes directly between the patient's household and the contractor chemist.

(2) *Obligation to Dispense.*—The terms of service for chemists will be amended so that there is no contractual obligation resting on a chemist to dispense the prescription where the levy is not paid. The chemist will be entitled to require payment of the levy at the time the prescription is presented for dispensing. Official publicity material will indicate, in terms yet to be agreed, that the levy payments are payments to the State, although the payment is made in the first instance to the supplier of medicine and appliances. This is intended to offset the impression already held by some sections of the public that the levy payments represent additional income to chemists and dispensing doctors.

(3) *Uncollected Medicines.*—The Ministry will accept responsibility for payment of the levy where a medicine dispensed on prescription remains uncollected in the hands of the contractor and without the levy having been paid by the member of the public concerned. Because the contractor will be entitled to require payment of the levy when the prescription is presented, the Ministry expects that its liability in respect of uncollected medicines will be kept at a minimum.

(4) *Hardship Cases.*—There are to be no exemptions from payment of the levy in addition to the normal direct contacts the professional conscience of the pharmacists will result in their having to supply medicines on occasion, without receiving the levy payment and without any hope of obtaining it subsequently. There will be an arrangement, yet to be settled, to cover this potential cause of financial loss to contractor-chemists.

Certain aspects of the levy scheme, of vital importance to pharmaceutical interests, still remain unsettled. They are: (a) the absence of safeguards against changes in prescribing habits intended by the medical profession to reduce the impact of the levy on their patients' pockets, and (b) the "non-inducement" clause in the chemists' terms of service, with special reference to the Co-operative dividend issue. The whole of the above matters are still being pressed forward in discussion with the Ministry; as soon as the modifications proposed or agreed to the original scheme are finalised, full details will be communicated to contractors and, if necessary, will be remitted to a Pharmaceutical Committee Conference for decision. The intended date of operation of the levy scheme has not yet been officially announced, but June 1 seems to be the earliest possible date.

Pharmaceutical Style.—. . . I shall also have dispensed with four jolly little green notebooks provided by a reader, which advertise, at the bottom of each dated page, the commodities of a certain firm of manufacturing chemists. It has been fun to enter film engagements in these books, for the author's laconic critical style can give points to many a professional. "Crude liver extract!" he snarls, while the rest of us fumble round for some descriptive phrase: "Powerful spasmolytic!" "Medium hypnotic!" The comment that most frequently fitted the occasion, I found, was "Synthetic Vitamin B."—*C. A. Lejeune, in the "Observer."*

TRADE NOTES

Dispensing Labels. — Bayer Products, Ltd., Africa House, Kingsway, London, W.C.2. announce that Eumydrin drops are now supplied with dispensing labels from which the section bearing the name of the product is detachable so that the chemist may dispense the bottle without having to scrape off the product name.

Repackaged.—County Perfumery Co., Ltd., Honeypot Lane, Stanmore, Middlesex, announce that Hiltone has been repackaged as illustrated. It is planned that distribution of the new packs shall commence early in April.

Not Subject to Tax.—CALMIC, LTD., Crewe Hall, Crewe, state that their specialities, Drapolene cream and elixir Cerevon, at present being offered to the medical profession, are not now subject to purchase tax. — CUXSON, GERRARD & CO., LTD., Oldbury, Birmingham, announce that the Sylvia adjustable sanitary belt, Dorothy towel suspender, and Sanibriefs sanitary knickers are now tax-free.

Antitubercular Agents. — Tablets of salicylamide manufactured by BENGER LABORATORIES, LTD., Holmes Chapel, Ches, are now being marketed under the trade name Benesal. The tablets are available in 5- and 7.5-gr. strengths in containers of 100 and 500.—ANTIGEN LABORATORIES, LTD., 95 Great Portland Street, London, W.1, are now manufacturing isonicotinic acid hydrazide under the brand name of Mybasan. The product is supplied as 50-mgm. tablets in packs of 50 and 500. Stocks at present are limited.

Not Yet Available.—Potter & Clarke, Ltd., Artillery Lane, London, E.1, regret that Thompson's gastric ulcer tablets (see *C. & D.*, March 22 p. 391) will not be available for approximately another fourteen days. Customers are asked not to forward orders until the week beginning April 7. In the formula, "Calami" should be read for calamin.

Distribution in South Africa. — Mr. G. P. Wallace, managing director of Pharmakers (Pty), Ltd., Cape Town, South Africa, is in Britain on a visit, and will be interested to discuss the manufacture and distribution of pharmaceutical products in the Union of South Africa. His address from April 17 to June 24 is 7 Park Place, St. James's, London, S.W.1.

New Cosmetics in Preparation.—Lenthéric, Ltd., 17 Old Bond Street, London, W.1, are introducing in the Spring a Red Lilac Bouquet (or perfumed toilet water) in two sizes (Lenthéric, Inc., the parent company, were awarded a silver cup for the fragrance of the product at Rochester, N.J.): a mascara in black and gold plastic box; and a face powder reissued after a recall of all stocks in 1951 as the previous shades were considered to be too yellow for the British market. All are "agency" products.

Sunglasses.—A most comprehensive range of sunglasses for the coming season is illustrated in a new brochure issued by Alfred, Franks & Bartlett Co., Ltd., Audrey House, Ely Place, London, E.C.1. The brochure illustrates the latest British, French and Italian styles, with Crookes lenses, and plastic and metal frames. Among its 100 types, the range is particularly rich in low- and medium-priced items in fashionable styles and colours.

Holiday Snapshots Competition. — In co-operation with the Southend Photographic Society, the Southend-on-Sea Corporation is organising a 1952 holiday snapshots competition, with prizes of £10 10s., £5 5s., and £3 3s. Any number of photographs taken during the past two years may be entered free of charge if not less than 6 x 4 in., and provided they have not been previously published. The closing date is September 30. Complete details are given in a leaflet obtainable from the town's publicity department, Pier Hill, Southend-on-Sea.

"Portable Sun."—What is claimed the most recent development in indoor sun-ray treatment is being marketed under the name Actina ("the portable sun") by

PHOTOGRAPHIC DEPARTMENT

CAMERAS AND EQUIPMENT, 1951-52

By Norman Jenkins

OF new equipment that the writer has been privileged to try out during the year there has been a steady stream. Barnet-Ensign-Ross, Ltd., London, E.17, began the year with new cameras in the Selfix series — cameras with a common basic design and morocco leather covering but differing in additional features. The picture size is 1⅝ by 2¼ in., using either 120 or 620 film, and body size is virtually the same for both models. Model I has an Epsilon four-speed shutter and bloomed Ensar f/4.5 lens. A cable-release socket and flash synchronising socket are both fitted. Focusing by scale down to 4½ ft. is provided. The view-finder is formed in the side panel. The model II has an Albada type view-finder giving a view of the surroundings as well as the picture area (useful for action subjects). The finder springs up when the opening knob is touched. The lens fitted is an f/3.5 Ross Xpres in eight-speed Epsilon shutter to 1/300 sec. Body releases are fitted and, in the model II, a dual interlock on film and shutter wind.

New Developers

Two new developers have come to the forefront during the year, Promicrol by May & Baker, Ltd., Dagenham, and Unitol by Johnsons of Hendon, Ltd., London, N.W.4. Considerable experience over the year with both suggests that, for general use, particularly with the average snapshot or record picture, Unitol is perfectly satisfactory and quite economical to use. Only a small quantity is required and the surplus is thrown away immediately. Promicrol follows established practice in re-use, but strikes a note of value with a standard temperature and variations in development time for degree of gamma. Using a high-speed film such as HP3, Promicrol behaves best in wintry conditions. Shadow detail is rendered exceptionally well and, judged on effective speed for shadow rendering, Promicrol can increase speed value figures by almost incredible amounts. Unitol and Promicrol are fine-grain developers, the degree of "graininess" depending largely on the method of working.

In the period there have also been several new developing tanks. First came the Paterson 35-mm. tank and then another for popular sizes of roll film. In the latter a rolling ball arrangement acts as ratchet to assist in feeding in the film, the now conventional arrangement of spirals facing one another being used to make the arrangement self-loading. Rotation of one spiral against the other—backwards and forwards for about an inch—brings the film into position. The Paterson tank (R. F. Hunter, Ltd., London, W.C.1) has the additional feature of a pump-type action when agitation is in progress.

Also thoroughly tested were two new Austrian Uniplex tanks. One is for 35-mm. film only and is a screwed-up assembly. The other is similar except that the units unscrew and, by means of a split-collar arrangement, provide for any of the normal film-size variations.

For the pharmacist who reckons to do a certain amount of processing for a favoured few customers, the foreign made Tribox tank (Photoscience, Ltd., London, W.14) is a help. It is much like the Uniplex (Photax (London), Ltd., London, W.1) in general construction — so far as the spiral units are concerned—but the tank is shaped like a three-leaf clover. Three spiral units have each a moulded gear wheel meshing with a central wheel that serves to turn all three during agitation. The central unit also operates a valve for releasing used developer or washing water. One or all three spiral units can be adjusted to suit various film widths, so that there is no limitation on simultaneous development; but the solution capacity—40 oz. for 35-mm. films and 60 oz. for 2¼-in.-wide. films—limits the use of the tank to multiple development.

Another aspect of tank working is that of handling roll films in daylight. The Kent tank, released in the summer of 1951, does that in an uncomplicated manner, separating the backing paper before commencing the wet process. The tank takes a minimum quantity of solution and is itself of record small size—4½ in. wide by 6 in. long. It is supplied by Johnson's of Hendon, Ltd. The same company

showed another new tank design in the chemical section of the British Industries Fair, 1951. For both 35-mm. and roll and 35-mm. films the tanks are similar to the familiar Johnson and Nebro pattern, but now offer Roto-Feed facilities. If the centre stem of a spiral developing unit is made with sufficient play, it is possible to twist one spiral to and fro against the other. Roto-Feed does that and enables the loader's thumbs to be used as ratchets and thus force film into the spiral units—a great improvement on previous designs. The summer of 1951 also brought a spate of new cameras. One was British, by Ilford, Ltd.: The Prentice, a simple f/11 focusing camera (size 120) with one-speed shutter and two stops, reflex view-finder and easy loading device.

Also simple in essentials but more foolproof in having an interlocked shutter and film wind is the Italian Duca (agents: Reigate & Hayman, Ltd., London, E.C.2), which takes 35-mm. film and uses the German Agfa Karat cassette system (a simplified means of using 12-exposure lengths of film). This very small camera has a lever-wind device with built-in exposure counter, time and instantaneous shutter-setting, curved film plane, and view-finder built into the body. The f/11 Ducar has a focusing mount.

A 35-mm. Camera

Another simplified 35-mm. camera, this time German, is the Bilora Radix (agents: Milbro Photographic, Ltd., London, W.1), also operated by lever wind and employing Karat cassettes. The Bilora Radix, however, does not use the full inch-by-one-and-a-half area, but makes a picture 1 in. square. Much more conventional in appearance, the Radix has four marked stops, one shutter speed (1/60), an eye-level view-finder, cable or body release flash synchronisation, bulb and time on the shutter. Several lenses are available. The one tested by the writer was a Bolixar f/5.6 of 38 mm., marked "near" and "far." The test results were surprisingly good, negatives going up to 10 in. square and showing excellent definition.

A similar 35-mm. camera on orthodox lines is the Edinex. It has a Compur shutter and shutter-point release, locking but not interlocked release, a clear view-finder of the eye-level type, and a full 36-exposure cassette of normal daylight-loading variety.

The Semflex, a French built camera on the Rolleiflex model, is fitted with a Compur-type shutter by Orec, speeded from 1 to 1/400 sec. Cable-release and flash sockets are catered for by twin recesses in the panel front. Shutter and film winding are separate. The viewing lens is an f/2.8 anastigmat coupled to a taking lens of f/3.5, a Som Berthiot of 75 mm. focal length. Tests showed the camera excellent in every respect.

Two other cameras, alike in many respects, are in the highest class—for price, for design and for workmanship. They are the Wrayflex (Wray Optical Works, Ltd., Bromley, Kent) and Rectaflex (Dawe Instruments, Ltd., London, W.7). The Rectaflex came first, though the Wrayflex, which made its production *débût* last summer, was tested first. The Wrayflex has previously been described before in these pages, and it only remains to say that operational tests showed fulfilment of early promise. The eye-level reflex focusing proved as easy to use as was anticipated and inspired confidence.

Eye-level Reflex

The Rectaflex is an Italian eye-level reflex of which much had been heard but little seen until recently. Reminiscent of many continental miniatures, it has the additional provision of a rangefinder—of sorts. The Stigmometer, as it is called, is a focusing aid of aerial-image type, in which vertical lines running through a clear spot also pass through an inclined cylindrical lens. When in focus, the vertical lines continue without interruption; otherwise they are bent. Additional good points are a removable back, and highly commendable standard of workmanship and finish.

The Kissling flash system (North Staffs Photographic Co., Ltd., Newcastle, Staffs), using powder, but fired electrically in a similar way to flashbulbs, had a mixed reception, though tests showed that the capsules should do all that was claimed for them. Only one enlarger was available for test—the Autognome, an automatically focusing model noteworthy for good workmanship in a quantity-produced article at a low price. Aldis dominated the field of slide projectors, first with their series ranging from 250 watts (and later 100 watts) to 1,000. The Aldis system of motor cooling and the newly developed condenser and heat-filter assemblies have certainly taken the art of the colour transparency into new realms, while the 300-watt mains-voltage lamp has given still projectors a new portability.

PHOTOGRAPHIC TRADE NOTES

Direct-vision Camera.—Perico Products (1950), 623 Holloway Road, London, N.19, describe on another page their Jupiter direct-vision camera and invite export and home trade inquiries.

De Luxe Enlarger.—Chemists are invited to write to Gnome Photographic Products, Ltd., 354 Caerphilly Road, Cardiff, for details of new features of the Alpha de luxe 2¼ by 3¼ in. enlarger.

Transparent Photo "Fixers." — Cumberland Paper Co., Ltd., Derbyshire House, Belgrove Street, London, W.C.1, are suppliers of the Seagull transparent photo fixers, details of which are given elsewhere in this issue.

Cameras for Immediate Delivery. — Milbro Photographic, Ltd., 52 Dean Street, London, W.1, offer immediate delivery of the Boy and 5-speed Radix 35-mm. cameras, both of which are illustrated on another page.

Range-finder Camera. — The Agifold rangefinder camera illustrated on another page by Agilux Ltd., Croydon, has a combined view finder and range finder, exposure meter, 8-speed shutter and built-in flash synchronisation.

At Cologne. — Gnome Photographic Products Ltd., 354 Caerphilly Road, Cardiff, are exhibiting at the International Photokina, Cologne, Germany, April 26 to May 4. Their stand no. is 313, ground floor, Halle III.

Self-loading Tanks. — Illustrated and described on another page are two models of the Paterson self-loading tank. The manufacturers and world distributors are R. F. Hunter, Ltd., 51 Grays Inn Road, London, W.C.1.

Books to Sell to Photographers.—The Fountain Press, 46 Chancery Lane, London, W.C.2, invite chemists to write for full details of their range of popular books on photography, some of the titles of which are listed in the company's announcement on another page.

Camera Repairs. — Adjustments to cameras, new parts and accessories are specialities of ALTRINCHAM RUBBER CO., LTD., The Downs, Altrincham.—BOWENS CAMERA REPAIR SERVICE, LTD., 37 Spital Square, London, E.1, specialise in camera repairs to the trade: showcards and addressed labels on application.

Price Error in Advertisement.—Too late for correction an incorrect price was discovered in the announcement elsewhere in this issue of J. J. Silber, 51 Avenue Chambers, Vernon Place, London, W.C.1. The Baldini Baldanar 35-mm. camera with *f*/3.5 Prontor S lens is priced at £22 3s. and not as stated.

Developing and Printing.—Service to photographic dealers "by post everywhere" and by delivery throughout Thanet is offered by BROADSTAIRS PHOTO WORKS, LTD., who have an announcement in this issue.—A one-day service in developing and printing at usual trade discounts, with free showcards and order pads, is offered by ORMSKIRK PHOTO SERVICES, LTD., Park Road Works, Ormskirk.

Tripod-bracing Attachment.—On wood blocks, linoleum, tiles and even stone or smooth concrete it is virtually impossible to prevent the legs of a tripod from sliding apart unless they are somehow held together. A new Ilford accessory meets the situation. Three sections are held at one end by a wing nut, the other ends clipping on to the tripod feet. The length of the attachment, closed, is 10 in.

Synchro-flash Box Cameras. — A box camera with synchronised flash contact and yellow filter is the "Agfa star attraction" featured in an announcement in this issue by AGFA, LTD., Wimbledon Factory Estate, London, S.W.19.—The Bilora flash box camera distributed by ACTINA, LTD., 11 Dane Street, High Holborn, London, W.C.1, has built-in shutter release and shutter synchronised for flash—features rare in cameras at the price of the Bilora.

Wide-range Thermometer.—For the worker who desires great accuracy in temperature readings the Ilford wide-range thermometer meets the need. Graduations are from 50 to 80°F., in half-degrees, with figures every 5 degrees. Calibration is for a 2-in. immersion depth. An opal scale background enables the thin mercury tube to be easily read. Adequate expansion and contraction chambers are provided. The thermometer is sent out with a rubber sucker by which it may be attached to the wall or the inside of a tank.

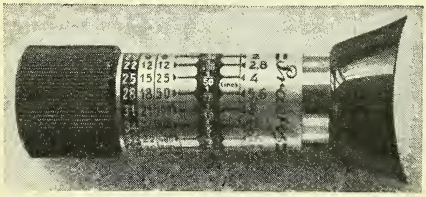
Illuminator for X-ray Films. — The value of radiographs upon which the radiologist must base his report, is often nullified by indifferent facilities for viewing. To overcome this shortcoming Watson &

Sons (Electro-Medical) Ltd., in conjunction with the illuminating engineering department of the General Electric Co., Ltd., Magnet House, Kingsway, London, W.C.2, have designed a cold cathode *x*-ray illuminator.

Home Cine Requirements. — Specially designed and priced for the popular market, the Dekko 8-mm. cine camera, manufactured by DEKKO CAMERAS, LTD., Telford Way, East Acton, London, W.3, is illustrated on another page.—PATHESCOPE, LTD., North Circular Road, London, N.W.2, draw attention to their service in supplying all requirements for home cine photography.—Cinex, Ltd., 9 North Audley Street, London, W.1, invite chemists to write for details of trade terms for the Bolex 8-mm. cine camera, and for descriptive literature.

Parallax Attachment.—Some twin lens cameras are compensated for parallax but this cannot usually be fully effective at all distances. An attachment offered by Ilford, Ltd., enables the effect of parallax to be overcome at short distances. The camera is focused with the attachment in the closed position and the exposure is made using the erected position. Made of brass, the attachment is chromium-plated and threaded for both English and Continental tripod threads. It may be used on twin-lens, brilliant-finder, and reflex cameras. The length when closed is 3½ in.

Wide Range Exposure-Meter.—The Practos junior exposure meter (illustrated)



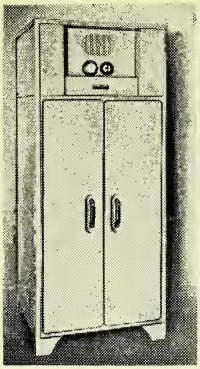
marketed by Actina, Ltd., 11 Dane Street, High Holborn, London, W.C.1, gives a particularly wide range of readings especially with poorly illuminated subjects.

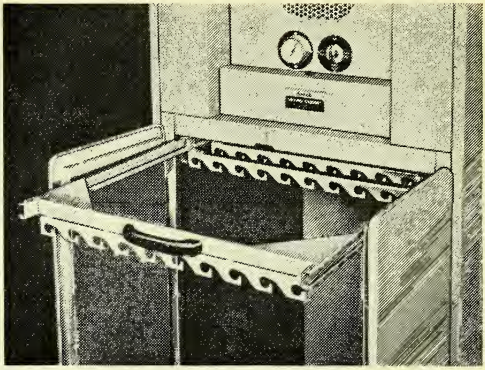
Silver-recovery Salts.—For those who do their own processing in bulk Johnsons of Hendon, Ltd., London, N.W.4, issue Johnson silver-recovery salts. Recovery of silver by precipitation has the advantage that almost the full value of the silver is available. Hitherto, its disadvantage has been that it is accompanied by an objectionable smell. The new product is without offensive odour. Full details of the method are available from the company. Residue sludge is sent to Johnson & Sons Smelting Works, Ltd., Creek Works, Brimsdown, Enfield, Middlesex.

Steel Telescopic Tripod. — The Bilora Stabilo tripod marketed by Actina Ltd., 11 Dane Street, High Holborn, London, W.C.1, is claimed the only steel telescopic tripod on the market and the only one with a tubular shape so as to give maximum rigidity, though the price is 20 to 25 per cent. lower than that of ordinary four-section brass telescopic tripods of the same dimensions.

Mixing Plunger.—The dealer with his own workrooms should welcome the chemical mixing plunger, the first accessory of its type on the market. Its use prevents adulteration of solutions. The plunger consists of a perforated base-plate of 6-in. diameter, with six ⅞-in. diameter holes spaced about the central tube which forms the handle. The tube is of stainless steel and is fitted with a rubber hand-grip. Moving the plunger slowly up and down in the bucket or tank quickly and thoroughly mixes processing solutions. Two models are available:—for use in vertical D. & P. tanks; or buckets and small tanks.

Flash Adaptors.—In view of the current flash photography campaign which is being supported by the Photographic Dealers Association, the Wholesale Photo Finishers Association and the manufacturers of both photographic materials and flashbulbs, there is added interest in the two new flash adaptors marketed by Ilford, Ltd. The first is for MES to ES sockets, and will be useful to those who employ bulbs of the PF 45, 60 or 100 types, or the G.E.C. No. 22 The adaptor is of brass, and enables any apparatus with an MES socket (including the ordinary electric torch) to be used for firing the larger-type flashbulbs. Secondly there is the MES to ASCC adaptor, which enables the type of apparatus already mentioned to be used with flashbulbs having American single-centre contact caps.—Another Ilford accessory which dealers should find easy to sell is the new open flash-holder, one of the most simple "flashguns" on the market. The holder is designed to attract the amateur photographer who has never before taken any flash-shots. Although it is low-priced, and very light (it weighs only 6 oz.) the flash-holder is strongly made and stands up to much use.



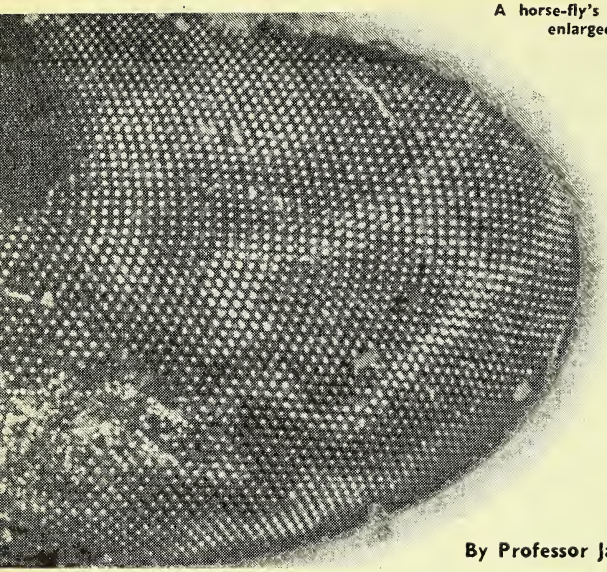


Roll-film Drying Cabinet.—The new Kodak roll-film drying cabinet, model 3, illustrated, has been designed to hold fifty films, up to and including 616, and dry them in forty-five minutes under normal conditions. The cabinet can be screwed to a wall if desired. The electrical unit is self-contained.

Transparency Slide Perforator.—Customers who use Ilford metal transparency frames for making up slides for projection should prove to be ready purchasers of the new Ilford transparency slide perforator. Since gummed white indicating "spots" cannot so easily be used with metal slides as with glass-mounted types, the perforator appears to solve a real problem. The accessory weighs only 2 oz. It has two detachable parts, the base, which is finished in black, and the top, which, apart from the actual punch, is of aluminium. In use, the two halves of the slide are separated and the top (thin metal portion) is placed face downward in the slot provided in the base of the Perforator. By hitting the punch smartly with the palm of the hand a small hole ($\frac{1}{8}$ in. diam.) is made, the circle of metal being cleanly cut out and allowed to fall out of the bottom of the perforator.

Three Tripods.—Three new camera supports marketed by Ilford, Ltd., are a light-weight tripod in three sizes; a heavy-weight and a body tripod. The light-weight models are made in sizes with four, five, or seven sections, closed and extended lengths respectively being $13\frac{3}{4}$ and $46\frac{1}{2}$ in.; $11\frac{5}{8}$ and $45\frac{1}{2}$ in.; and $9\frac{1}{4}$ and $47\frac{1}{4}$ in. The head is flat, and each section is held in position by a spring catch. When the uppermost catch is depressed the whole leg may be telescoped with a single push. The heavy-weight tripod is substantially made, with four sections, each tube being locked and unlocked by twisting it half-a-turn in relation to the tube above. The head is round and is threaded for English tripod bushes. The tripod closes to 18 in., while the extended height is 56 in. The Ilford body tripod should appeal particularly to the miniaturist. It is a camera support device with a neck cord adjustable to enable the camera to be used at eye level. The support column is threaded at the top for the English-type tripod bush. On the lower end is a Continental thread, which provides the added advantage that the accessory may be used on top of an ordinary tripod to increase the camera height.

Filmstrips and Projectors.—Kershaw-Soho (Sales), Ltd., 37 Mortimer Street, London, W.1, a company within the J. Arthur Rank organisation, give complete details on another page of the Kershaw model 250 filmstrip projector, outstanding features of which are its 4 in. f/2.8 lens, built-in mains switch, forward and reverse action, and micrometer tilt-adjustment. A catalogue of G.B. filmstrips is obtainable from G.B. film division, Aintree Road, Perivale, Greenford, Middlesex. Watson, Manasty & Co., Ltd., 34 Twickenham Road, Teddington, Middlesex, manufacture a range of 35-mm. filmstrip projectors and also issue the Tartan series of filmstrips (correspondence regarding filmstrips should be sent to an associate company, Diascopic Films, Ltd., at the same address). The Skolascope projects single- and double-frame filmstrips, 2 x 2 in. slides, micro-slides, has a rotating head for changing from horizontal to vertical pictures, and works from mains supply or from a car battery. The Magiscope, designed for extreme portability, can be dismantled in a couple of minutes and packed to form a compact unit for carrying; its keynote is that it is "brilliantly simple." The Keroscope, using a kerosene lantern brings the advantages of the filmstrip to populations without electricity.



A horse-fly's eye, magnified on to a negative and enlarged from negative on to a print.

FIFTEEN YEARS OF POCKET-LENS PHOTOGRAPHY

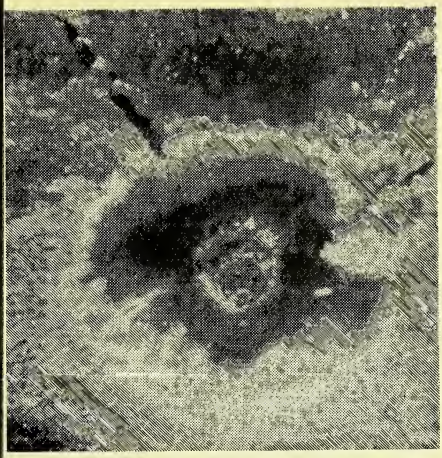
By Professor James Small, D.Sc., Ph.C., F.R.P.S.

SINCE THE CHEMIST AND DRUGGIST was the journal that first published an article on my method of producing what I call "pocket-lens views" of small objects, it is appropriate that its Editor should call for a review of progress since 1938. In that year the *C. & D.* also published two illustrated articles in which I described and advocated the use of enlarged prints from negatives taken with a magnification of about 4 to 16 diameters. The negatives yield a view such as is obtained with a good pocket-lens, but when enlarged prints are made one can study and appreciate details much better than when peering through a single lens, or even when using both eyes with a low-power binocular microscope. Several minor but very interesting discoveries have been made, merely by common-sense interpretations of what has been seen plainly in some of those enlarged prints.

First Pictures

In 1938 THE CHEMIST AND DRUGGIST also published a practical application of the method, namely a dozen pocket-lens photographs of various characteristic parts of *Ephedra* plants, making a total of three articles with thirty-six illustrations—a good beginning to the articles in various series that followed in the next six years. The main series was a long run of articles on

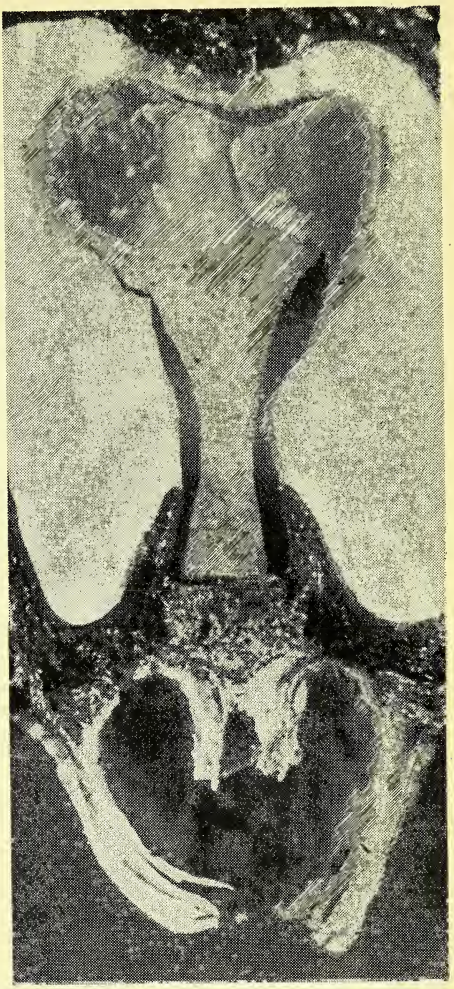
Original pocket-lens camera in field use in Dorset.



Transverse cut of embryo in white pepper, surrounded by a semi-translucent ring of endosperm (the inner endosperm pocket cut across), and also by a second thinner ring (the outer usually recognised endosperm pocket cut across), with perisperm outside in greater quantity. The embryo is the minute whitish tissue in the centre.

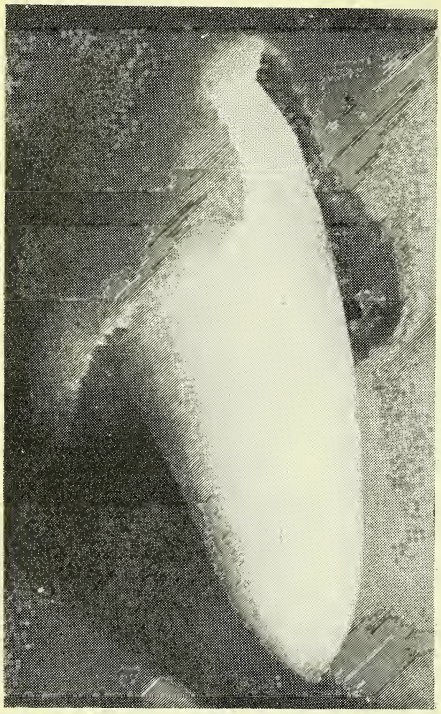
spices, their history and structure as seen under a good pocket-lens, to a total of more than forty articles in the monthly journal "Food," with about 180 pocket-lens photographs as illustrations. Most spices and some aromatic herbs were covered from 1939 to 1949. As a result of those articles, contacts were made with commercial problems and successful advice was given both at home in Belfast and as far abroad as New Zealand. The pharmaceutically trained nose was at least once "worth a guinea a sniff" on a problem that had eluded chemical analysis!

An earlier shorter series on the interesting pocket-lens details of common wild or garden plants appeared during 1939 in the "Gardeners' Chronicle," and several of those illustrations have achieved repeated publication. In those early days scepticism was common, but when "Picture Post" filled one of its large pages with a reproduction of my print of one eye of a horse-fly, some of the best London photographers of small objects admitted they had nothing like it. One well-known maker of cameras and microscopes held up to his colleague one of my prints and said something like "I don't believe it. Do you?" But that stage passed, and pocket-lens photographs began to be used more frequently in advertisements and as illustrations in books, such as those now em-

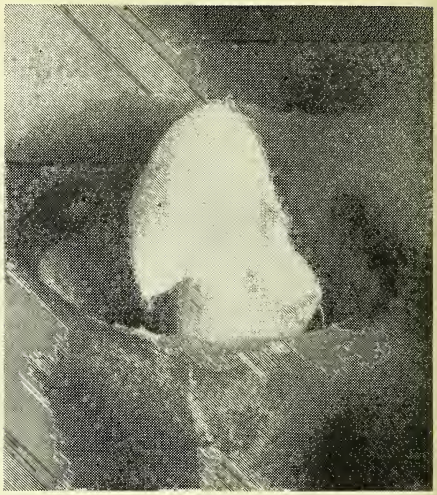


Part of a grain of Paradise cut lengthwise to show the truncate appearance of the root-tip. This flat apex has compressed the persistent suspensor of the embryo against the hard casing of perisperm. The top of the embryo is also flattened against an upper surface of perisperm and is surrounded laterally by the endosperm.

ployed to show the details of knitting. Enlarged magnified photographs as illustrations are now common in medical books dealing with structural details: those direct photographs of actual material are taking the place of photographs of models built up on a large scale from serial sections modelled one by one in some plastic



Part of the outer surface of a germinating broad bean to show the three-lobed operculum which is opened by a lateral push of the radicle before that root starts to elongate at all: first seen, as a definitely organised part of a bean-seed, in pocket-lens 10 in. x 8 in. prints, in 1947, by J. Small.



The Arcs of Orr—rusty arcs on the inner surface of the radicle-pocket in the seed-coat. These arcs together act as a clamp on the top of the radicle, and prevent back-pressure from breaking the radicle away from the seed-leaves. They were discovered by Dr. H. R. Orr (Proc. Bot. Soc. Edin. 32, 174, 1936), after the broad bean had been used as elementary class material for about two centuries.

material, and the new illustrations naturally convey a much greater impression of reality.

At one time, entomological photographers refused to enlarge their objects to much more than twice natural size, but now, in pamphlets dealing with timber pests, one may see the furniture beetle six or eight inches long with all its visible detail in photographic sharpness and depth of focus. Some photographers have realised that the whole visible surface of a small object can be brought into reasonably sharp focus, if the whole depth of the zone of critical sharpness is used with a lens stopped down to 1.4 or 1.2 mm. Diffraction effects begin at about 1.0 mm. aperture, but there are rings of clear focus even at less than 1.0 mm., which can be used sometimes, after critical study of the image on the focusing screen. This seems to involve the wave-length of light, and I have not yet seen a critical account of the phenomenon in relation to a lens, although Selwyn, in "The Photographic Journal" (1950.**90B.**47-52), gives an interesting illustrated discussion of somewhat similar observations with a pin-hole camera.

Apparatus

Traditional photomicrography, using a microscope, has a long history of its own with much professional equipment, but it is only since the depth of focus attainable with smaller degrees of magnification has been appreciated that pocket-lens photography has been practised to any considerable extent. The necessary equipment has recently passed out of the amateur stage, and is being advertised at least in American journals, such as "Science." Even yet, however, the equipment normally available is not very suitable for free use outdoors, though it is rather more portable than the 25-ft.-long camera, with lens of 25-in. focal length, that had to be built outdoors in a more or less permanent position for use by David Fairchild in

1913 to get his "monsters of the back-yard" as described in Chapter XXX of his book "The World was my Garden."

I started my work with the "Watson-Small Pocket-lens Camera," 13 in. long, with a square bellows and rigid front and back, fitted to take either $3\frac{1}{2}$ x $2\frac{1}{2}$ in. plates in dark slides or film-packs. The facility in use of film-packs made much of my outdoor work possible. When film-packs were no longer obtainable, I worked for some time with a roll-film adaptor, but a very high degree of accuracy in the register of film or plate surface is necessary for this kind of work.

Ideal Camera for the Purpose

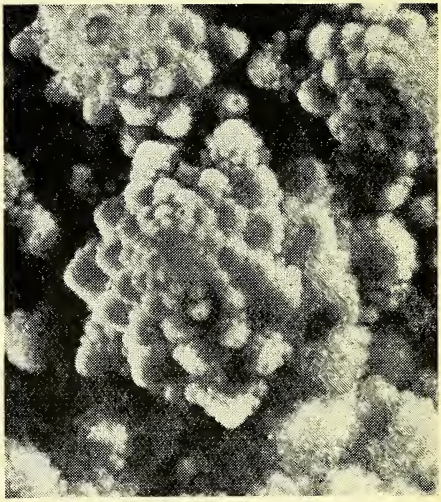
The Watson-Small camera was a war casualty, though I still have the original model made to my specification. It was not perfect. The ideal camera for pocket-lens photography should be a straight reflex camera with a focal plane shutter, using 120 roll-film in accurate register, having a lens that is easily removed and replaced accurately, extension tubes for close-ups, and also an adaptor for a microscope lens to permit the use of holoscopic or other lenses of focal lengths from about 8 down to 2 cm., with iris diaphragm for stopping-down to about 1.2 mm.

When the Agiflex camera came on the market it was clearly of this ideal type, and the makers were kind enough to supply me with an adaptor for microscope lenses. This is a quite "unsolicited testimonial," but I have "used it ever since." Much of my work has consisted in taking pocket-lens photographs to be used as lantern slides and 10 x 8 in. mounted prints in teaching and research. The range made available by interchange of lenses is from photographic infinity down to 2 cm. from the object, and even 1/6 in. ordinary microscope objectives have been used successfully on prepared microscope slides. The Agiflex may not be quite rigid enough for high-power photomicrographic work, but it can be adapted to cover the whole range of pocket-lens photography with ease and complete portability. This camera, with an adaptor for microscope lenses, makes pocket-lens photography almost as easy as ordinary snap-shotting!

Nevertheless, some of my early results remain among the best that I have achieved, such as the fly's eye in "Picture Post" (1938), and a set of spiders' webs, complete with tied-up flies and "poetry" which occupied the two middle pages of the "Field" for August 24, 1940.

When my memory goes back to what was happening in Britain at that time, my respect for the then editor of the "Field," Brian Vesey-Fitzgerald, goes ever higher. The article was originally entitled merely "Cobwebs," but he was even then able to select part of a line of my poetry as the title "Pearls strung upon a silken net." The words were an outcome of pocket-lens photography outdoors between 7 a.m. and 8 a.m. on a Dorset heath, all the webs being laden with dew-drops. The pocket-lens camera was screwed to a small table-base mounted on a large old-fashioned wooden tripod.

On that same Dorset heath, at a caravan camping site, I took hundreds of pocket-lens photographs with sunlight concentrated by a small concave mirror as illumination. Those and others have been used in sets for years as lantern-slide illustrations for lectures, followed by a frequently changed set of forty-eight enlarged prints from the same negatives. I began that work as a teacher, and over the years most of its satisfaction has lain in being able to demonstrate photographically many of the interesting details that can



Part of a spiral cauliflower showing one complete secondary unit from a primary spiral, with the tertiary units quite obvious. Each tertiary unit has a smooth apex with flower-primordia showing as round knobs in the quaternary spirals below the "bald" top.

be seen with a good pocket-lens, thus justifying the descriptions and drawings previously published as "Pocket-lens Plant Lore."

The teaching series are in sets of from four to twenty-four photographs of each plant or flower. The subjects of the sets include the daffodil, tulip, snowdrop, bog asphodel, foxglove, snapdragon, sweet pea, wallflower, lavender, hollyhock, magnolia and rhododendron flowers; dry rot; the arum and its captured flies, the sundew in all detail, including a fly having its wings and eyes pulled off by the tentacles, gooseberry flowers and stages of growth of the berries, willow herb, dandelion, Scotch heather or ling, many heaths, the broad bean, mustard seed and many other seeds, all the umbelliferous fruits used as flavourings, hemlock water-drop as a common poisonous plant, and all the parts of spices that are of botanical interest, as well as many single prints of special subjects.

Discoveries

One of my early minor discoveries was that the small object usually pointed out as the embryo in white peppercorns is really an inner pocket of endosperm enclosing the embryo. Another was the almost unbelievably flat apex of the radicle in a grain of paradise, which seems to be due to the continued growth of the embryo after its "casing" has hardened. A later observation was the operculum of the broad bean, a three-lobed flap in the outer seed-coat which is preformed by a correspondingly three-waved line of weakness combined with an absence near that line of the strengthening of cell-walls that shows as the "light line" in leguminous seed-coats. The bean set of prints toured America in one of their first exhibitions of "Photography in Science," but it is also in annual use for first-year students. Debated points of structure, such as the Arcs of Orr in the broad bean, are made obvious when they can be photographed and put up to 10 x 8 in. prints showing details.

It is now only rarely that a really good subject forces itself upon my notice, but such was the case when my wife brought home a one-and-sixpenny cauliflower that had grown out into beautiful series of spirals — main, secondary, tertiary, and even quaternary—as a solid living diagram of the mechanics of organ development, a complete living exposition of—"the origin of one lateral organ at a time, accompanied by a uniform growth rate"—which inevitably results in all the complexities of phyllotaxis with its Fibonacci angle and its Phi ratio relation of one part to another.

In general, the past fifteen years have seen a relatively large increase in the practical use of pocket-lens photographs, but the authorities, both photographic specialists in this line and the producers of dictionaries, still disagree strongly upon terminology.

I continue to call these illustrations "pocket-lens photographs," but from February 1944 to October 1951 references to differing names for such photographs continued to appear at intervals. When a microscope objective is used the phrase "low-power photomicrographs" seems to be technically correct, in spite of much confusion shown by the makers of dictionaries. When extension tubes are used with the original camera-lens, there is as yet no agreed word. The last discussion mentioned ("Photographic Journal," 1951. **91B**) was by D. Charles, who used this type of photography to a considerable extent commercially. He gives an account of the lamentable confusion, even in high places, but no one word covers the results of pocket-lens photography, and I see no reason why an addition should be made to the already long list of misused single words. The photography of small objects is now not very different from the photography of any other size of objects. One can see the minute details better when the view-point is closer or the print larger, but there is no point in defining by one word such a varied range of magnifications.

In publishing the technique for producing "pocket-lens photographs" THE CHEMIST AND DRUGGIST pioneered in what is now a much more widely accepted method of illustration. But the main function of enlargement for publication is to get very small details showing in spite of the reduction in definition involved in the half-tone method of magazine printing. When these enlargements are printed on the 10 x 8 in. scale the result is very striking, whereas when they are reduced down to about the negative size the realistic details are lost and only the main items show clearly. Even the main items alone may, however, be well worth seeing.

PHOTOGRAPHIC FILM

By A. H. Palmer

ESSENTIALLY a photographic film consists of a length of transparent flexible material, referred to as the support, on which is laid a coating of a photosensitive substance termed an emulsion. To the pharmacist the term "emulsion" is obviously a misnomer, as the coating consists of a suspension of finely divided silver halide—principally the bromide—in specially selected gelatin. The film is wound on to a flanged core with its coils interleaved with opaque paper, which serves to protect the sensitive film from light, to draw it through the camera, and to carry markings to enable the user to wind on the right amount of film to ensure that successive exposures are accurately placed along its length. The support is cellulose nitrate or acetate, which must be inert with respect to its effect on the emulsion. Some substances (such as camphor, certain resinous substances, and turpentine) have a fogging action upon the photographic emulsion. This limits the choice of plasticisers in the film base and of inks for printing the backing paper. The sensitivity of films to the emanations of those substances also demands care during storage. Sulphurous fumes, hydrogen peroxide, or the vapour of fresh paint or varnish may cause fog.

How an Emulsion is Made

The emulsion is prepared by precipitating silver bromide (usually with a small proportion of iodide) in gelatin, under carefully controlled conditions. Emulsion making is a highly specialised procedure, subject to "trade secrets," but the following is a general outline of the process.

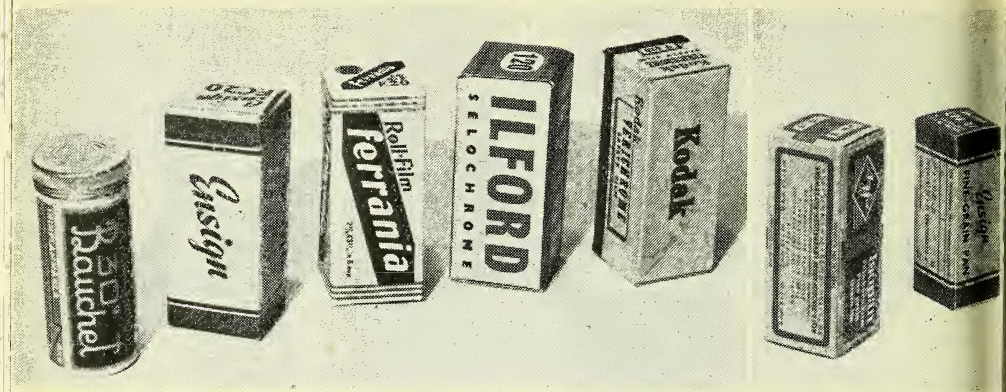
To a solution of gelatin and potassium bromide, with 3 to 5 per cent. of potassium iodide, warmed to about 70°C, is added, with constant agitation, a warm solution of silver nitrate. The relative concentrations of the reacting solutions and the proportion of gelatin present influence the characteristics of the resultant emulsion. The bromide is used in excess. Precipitation in the presence of a large proportion of gelatin produces a slow speed, fine grain emulsion, while "fast" emulsions are prepared by mixing concentrated solutions of the respective salts in the presence of a low concentration of gelatin, the silver nitrate solution being run in slowly, with the temperature kept constant during the mixing and for a certain time afterwards. During this time the silver halide particles undergo certain physical changes which endow the finished product with its particular characteristics. Later, sufficient gelatin is added to produce a firm jelly on cooling. The jelly contains, in addition to the precipitated halide, the soluble potassium nitrate and excess potassium bromide, which are removed by washing. To achieve that end the jelly is shredded by forcing it through a perforated plate, the emerging "noodles" being thoroughly washed in running water until all soluble salts have been removed. The washed emulsion is later subjected to a period of digestion, during which its speed is considerably increased.

Increasing the Sensitivity

Gelatin was originally chosen for its convenience as a vehicle, but research has shown that traces of sulphur-containing substances that may be present even in the purest gelatin exert a valuable sensitising action. Traces of allyl isothiocyanate (as little as 1 : 2,000,000) have been shown to increase the sensitivity of an emulsion. Additions are made to stabilise the emulsion, to mitigate chemical fog, and to harden the gelatin.

Silver halides, in common with other silver salts, are sensitive to light and darken on exposure to it. The length of time taken to darken by mere exposure is far too long to be of practical value. A much shorter exposure, however, produces what is termed a latent image, that is, a a predisposition of light-excited crystals to break down under the action of certain reducing agents: for example, metol (monomethyl-para-aminophenol sulphate), hydroquinone (para-dihyroxy-benzene), pyrogallol, amidol (2 : 4 diaminophenol hydrochloride), paraminophenol, etc. Those substances are referred to as developers—another of those inaccurate terms with which photographic nomenclature is overburdened. The French term *révélateurs* is far more accurate.

In the camera, an image of the subject is projected on to the film and a latent image formed. The brightest parts of the image, representing the highlights, penetrate more deeply into the emulsion and excite several layers of silver halide crystals. The middle tones penetrate less deeply, while the shadow areas of the subject may reflect so little light that they



Left to right: ORTHOCHROMATIC films, by five makers: Bauchet (agents, Actina, Ltd.); Ensign (Barnet Ensi FINE-GRAIN PANCHROMATIC films by Agfa (Agfa, Ltd.); Ensign; Ilford; and Kodak. HIGH-SPEED PANC

are hardly registered at all on the emulsion, which after treatment with a reducing agent, represents the highlights as dark deposits and the shadows as relatively clear areas with intermediate tones falling into place. The silver halides that are not affected by light and are therefore not reduced are dissolved away in a solution of sodium thiosulphate (hypo) after development. This process is described by yet another erroneous term: "fixing." During printing, light readily penetrates the less dense areas to record shadows, while the dense areas of the negative protect the printing medium from light and register as light areas.

Response to Colour

A simple dispersion of silver bromide in suitable gelatin would certainly be light-sensitive, but it would not be suitable for amateur photography. Not only would it be "slow"—that is it would require a long exposure, compared with those to which photographers have become accustomed, but it would be sensitive only to ultra-violet, violet, and blue light. Such emulsions are referred to as "ordinary" emulsions and are used for certain technical purposes where response to light other than the blues and violets is unimportant. They are not coated on to roll film for use in the amateur's camera.

Modern roll films may be divided into two main groups: orthochromatic (chrome) and panchromatic. Before the war the word "orthochromatic" was used to describe slower types of roll film that are no longer on the market. The term "chrome" (as in Selochrome and Verichrome) was used to identify a faster variety of orthochromatic stock. The term "orthochromatic" is another of the several misnomers that have crept into and been retained in photographic parlance.

In 1873, H. W. Vogel discovered that the addition of certain dyes to emulsions sensitised them to colours which were absorbed by the dyes, but it was not until about 1900 that commercial use was made of his discovery. Erythrosine was used to sensitise emulsions as far as the yellow-green region of the spectrum and the over-optimistic terms orthochromatic (correct colour) and isochromatic (equal colour) were applied although the emulsions were still insensitive to orange and red. Chrome films should not be despised on that account. For a vast amount of amateur photography they are perfectly satisfactory, while the amateur who wishes to develop films is able to do so by the illumination provided by a suitable red safelight (with stress on the word "suitable"). The filter or "screen" as it is often called, of a safelight must not pass blue or yellow

Ltd.); Ferrania (agents, Neville Brown & Co., Ltd.); Ilford (Ilford, Ltd.) and Kodak (Kodak, Ltd.).
IC films by Agfa, Bauchet, Ferrania, Ilford and Kodak.

light. To use any old piece of glass that merely *appears* red is to court disaster.

In 1904, cyanine dyes were introduced, making it possible to sensitise emulsions to the red region of the spectrum, but it was not until 1927 that such emulsions, described as panchromatic, came into general use.

While "chrome" films are issued in only one speed, panchromatic roll films are available in three speeds.

Film Speeds

It may appear to be another of those photographic misnomers to associate the idea of speed with so static an article as a roll film. Perhaps a better word would be "sensitivity," but that is also used in relation to colour-response. "Speed" is defensible, however, because a "fast" film permits the use of a faster shutter speed, other things being equal, than a "slow" film.

Generally speaking, the larger crystals of silver halide in an emulsion are more sensitive to light than the smaller crystals. Thus an emulsion in which small grains preponderate—the so-called fine-grain emulsion—is slower than one in which there is a high proportion of large crystals. As may be expected, the fine-grain emulsion is able to resolve fine detail more adequately, so that a negative produced on a fine-grain film may be enlarged to a higher degree than a coarse-grained negative before the structure of the image becomes obtrusive. The major consideration, therefore, in choosing a panchromatic film is the permissible shutter speed.

The size of the individual crystals, even in the fastest emulsions is so microscopic that, if they retained their original size during the processing of the negative, the bogy of grain would not arise. During development, the light-struck silver halide crystals are reduced to silver, the bromide ion passing into the developer. Energy released during the chemical reaction causes the particles involved to oscillate in the swollen and softened gelatin with the result that neighbouring particles coalesce under mutual attraction to form "clumps."

It follows that the use of a fine-grain emulsion is not the only consideration in the production of a negative, which is capable of high degree of enlargement. Reducing agents of low reduction potential are used in fine-grain developers.

At left: EXTRA FINE GRAIN films by Ilford (36-exposure cassette size 135), Kodak and Agfa. A new design is pending for the Kodak Panatomic-X carton. COLOUR films by Agfa (Patrone and Karat-film); and Ilford (colour film D).

FILMS IN SCIENCE TEACHING

MEMBERS of the Pharmaceutical Society who regularly attend the Society's evening meetings and were present on March 3, enjoyed a change from the usual lecture. DR. BRIAN STANFORD, who represents the Scientific Film Association on the Society's Films Committee, gave a lecture-demonstration on "The Use of Films in Science Teaching." Dr. B. A. Young (chairman of the Society's Publications Committee) presided.

A Short Demonstration

Dr. Stanford invited his audience to imagine themselves as workers who had had a lecture on removing foreign bodies from the eye and were about to see a practical demonstration. The film was a good medium for the purpose, since repeated demonstrations could be given without undue discomfort to a live subject. A short colour film then screened showed how to evert an upper eyelid. The next two films dealt with the performance of the mouse pregnancy test (with close-up of the dissection) and the administration of muscle relaxants (usefully demonstrated by film because there were dangers associated with anæsthesia). Dr. Stanford next showed the final sequence of a fifty-five-minute film on peripheral arthritis.

Three questions, he said, should be asked about a "teaching" film: "What audience is it intended for?"; "What is its object?"; and "What is the audience assumed to know about the subject already?" Films could be compared with text-books, and on that analogy the first film shown—on eyelid eversion—was like a sentence; the one on the pregnancy test like a paragraph; and the one on peripheral arthritis like a monograph.

Illustrating the use of "stills," Dr. Stanford introduced a film strip dealing with burning accidents in the home and provided with two sets of notes — one for mothers and nursery workers and one for medical officers of health. Educational films could be classified as "How to do it" (e.g., how to use a microscope), or "How it is done" (e.g., most surgical films). An example of the second kind was projected. It showed how moulds for contact lenses are made, and was intended for ophthalmic opticians whose need was to know how it was done but not themselves to do it. "Background" was provided by such films as one showing how the dispatch department of a pharmaceutical house operated.

A type of short film dealt with subjects which—if they did not involve movement (e.g., the effect of a drug on the neuromuscular junctions of a chick) — could have been equally well illustrated by lantern slide. The last type of film shown and described was that of the "conceptual exposition," the example being a moving geometrical pattern illustrating the generation of involute gear teeth.

In discussion, Dr. Stanford told members that stereoscopic films would be better than "flat" ones as they were nearer to actuality. He preferred colour films for the same reason. The cost of making a film depended on the length of time taken, how far the unit had to travel, and how much artificial lighting was necessary. No single method of teaching was entirely effective, he said. MR. W. J. MERRICK (chairman of the Society's Film Committee) proposed a vote of thanks. He said that a list of films for Branch meetings had been produced. There were no existing films on pharmacy, but a "treatment" of such a film was in preparation by the Committee. Films would be useful for presenting the subject of pharmacy to the public, and that should be done by the Society.

FILM COMMITTEE OF THE SOCIETY

A STATEMENT issued by the Pharmaceutical Society recently gives the following as the functions of its films committee:—To

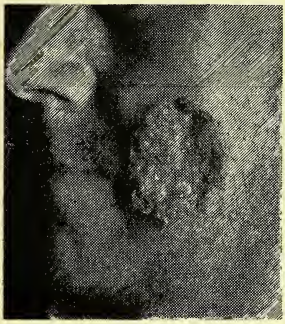
1. Prepare list of available pharmaceutical films.
2. Review need for films and other visual media for teaching and post-graduate instruction.
3. Prepare a reference list of those subjects on which films might be made.
4. Interest organisations in sponsoring the production of films on this reference list.
5. Establish a service whereby sponsors of films could check whether the subject chosen was already in production by another sponsor.
6. Consider providing an information service.

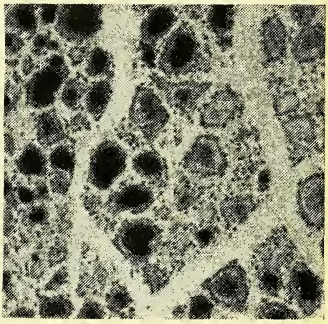
The committee first met in March 1950 and is now meeting quarterly. A list of films for Branch meetings and notes on the organisation of branch film shows were published in the autumn of 1951. Copies of these documents may be obtained from the secretary of the committee (Mr. D. F. Lewis). A list of subjects on which educational films might be made has been prepared after consultation with teachers of pharmacy. Liaison has been established between the Scientific Film Association.

RECENT PROGRESS IN MEDICAL PHOTOGRAPHY

By E. Victor Willmott, F.I.B.P., F.R.P.S.

MEDICAL photography had secured its place on the map by 1945, when at the end of the second world war, it seemed that the medical profession suddenly realised the many ways in which photography could help them. Previously, for about a quarter of a century, medical photography had been practised professionally by a small scattered band of enthusiastic pioneers. Since 1945, great headway has been made, helped by active medical groups in the Royal Photographic Society and the Institute of British Photographers.





Left and Centre: Flashlight photographs of a rodent ulcer, before and after x-ray therapy. Right: Autoradiograph of thyroid gland. Photomicrograph x 190. Radioactive iodine has been injected into the patient. The active iodine makes for the thyroid gland and settles in the colloid. In the picture the situation of the radioactive iodine is indicated by the black masses which it produced by fogging a photographic emulsion laid on the histological section.

Comparison by Photograph

Clinically, photographs are used for comparative purposes as they help the clinician to observe progress accurately. Comparative photographs are also used for teaching in undergraduate and postgraduate medical schools. Medical photographers have grasped at all means of improving the quality of their work, and few medical photographic departments are without, for example, electronic flashlight units (which only became available about four years ago). The exceptions are, no doubt, using flash lamps with expendable bulbs, which are as effective but more expensive in use and less amenable. Flashlight technique permits the taking of close-up pictures of small lesions, such as rodent ulcers, which demonstrate the condition with sharp image and all the tone values that go to make a good photograph. The flashlight is particularly valuable in photographing cavities. Pictures of the palate and tonsil area of the mouth are commonly required today and at least three efficient lighting devices have been developed for this work alone, in each case by practising medical photographers.

Photomicrography is being increasingly used particularly by the research workers in many fields of medical research. The author is engaged at the moment on photomicrographic work in connection with pneumoconiosis, histochemistry and crystallography. Electron microscopes are in use by most of the special medical research units, particularly those connected with cancer research and bacteriology. An electron microscope not only permits a much more detailed study of bacteria that are visible with the ordinary microscope but makes it possible to see the otherwise invisible viruses (of a size less than the wave-length of light). The instrument will give magnifications of fifty and sixty thousand times with remarkable definition. The greatest difficulty in using the instrument is probably the business of getting the subject matter on the target grid (a fine mesh about 3 mm. in diameter. The subject to be photographed must be suspended over one of the tiny spaces in the grid). Phase-contrast microscopy is perhaps the most recent and promising of photographic techniques using the microscope. In this form of microscopy the light, instead of being directed at the subject matter in a direct beam as in straight

photomicrography, is split into two beams at a point below the substage condenser so that the light reaches the subject at the apex of a hollow cone. From the subject the light goes out again in another hollow cone inverted, however, so that two beams pass through the objective lens and then via a phase plate to reach the eyepiece of the microscope as one. By these procedures unstained and living tissues can often be photographed at high magnifications with much greater resolution than otherwise, in fact otherwise invisible detail is sometimes resolved. It could be said that phase contrast is established dark-ground technique carried a stage further.

The photography of pathological specimens removed surgically or at post mortem is a common demand. In this field an illuminated background, or perhaps it should be described as a trans-illuminated background, is often regarded as an advance in technique. It provides a dead white shadowless background to the subject, which many medical photographers appear to like. Approval is by no means universal however.

Photographs in Colour

Medical photographs in natural colour by direct processes have come into common use since 1945. First to become available was Kodachrome in 35-mm. roll film; this was followed by Ansco and later by Ilford Colour in the same size and form. These processes give remarkably good results provided light of the correct colour temperature is used, or, alternatively, the proper correction filter is used. The same attention must be paid to light and filtration with the Ektachrome process which was introduced for those who required a larger size picture. This has proved extremely good in colour rendition. With this material fine clinical pictures are produced which are invaluable to the clinician in following the progress of his cases and in teaching.

While a black-and-white photograph will demonstrate a great many conditions and lesions such as rheumatoid arthritis, exophthalmos or enlarged thyroid gland, other subjects, such as skin conditions, almost demand a colour picture. The use of colour film in photomicrography is proving of great value—in, for example, photographing histological sections stained in at least two colours with differences in depth of colour caused by variations of stain absorption by the tissues. However in most of those preparations a perfectly good black-and-white photograph can be produced if the photographer's technique is as it should be.

Pathologists are now developing the histochemical process (hitherto neglected) of preparing sections for microscopy. It has been found that this process which uses chemicals of the dye-coupler type is far more effective in certain directions than others, and positive diagnosis has been made possible much earlier in some conditions and more conclusive in others by its use. Many of these histochemical preparations do not lend themselves to black-and-white photography but colour photomicrographs on Ektachrome film are proving uncannily accurate. Unfortunately the cost of making colour blocks for printers is so high that medical journals cannot afford to publish more than a few colour illustrations in their pages. Medical photographers are awaiting the introduction of the Johnson colour screen process which will be simple to process, will use negatives, thus permitting any number of colour transparencies or black-and-white prints to be made, and will have contrast control. Although a similar process was in use before the second world war it will be new to the majority of medical photographers.

Film strips, introduced comparatively recently, were hailed as a wonderful means of transporting lecture illustrations. While film strips are useful in elementary teaching, it was soon realised in the medical world that a lecture thus illustrated was set, for it is not possible to take pictures out and replace with others or rearrange in any way. In the place of the film strip has come the 2 in. square slide which is much more likely to remain in use and may even become the recognised standard size.

Apart from a wide range of fine grain developers the photographic chemists do not appear to have produced anything that could be described as an advance for the medical photographer. The writer tries new developers as they appear on the market but always returns to the formulas he has been using for more than a quarter of a century.

National Collection of Photography?—An appeal for the starting of a national collection of photographic art and apparatus was made in a letter to *The Times* recently, signed by eight representatives of the arts and letters.

GETTING GOOD FINISHER SERVICE

By Leslie G. Sandys, A.R.P.S., F.R.S.A.

AMONG questions that should be put to every photographic dealer from time to time are the following:—"Does your photo finisher sometimes cause trouble by not executing work as your customer ordered it? Has his trade service occasionally let you down by not returning some orders by the time they were promised? Are there times when you feel that the quality of the prints *could* be just a little higher? Do you find, when you glance at your competitor's window—just casually, as you take your evening stroll—that his photo display is more attractive than yours because he has an array of enlargements and showcards better than your own, though you are both served by the same finisher?" If one or more of these thoughts strikes a chord in the memory of the reader and decides him to do something about it, he should seek to discover whether the cause is not that his own house should be put in order before he fires a tirade at the poor finisher.

Any or all of the above faults can be caused by the dealer himself. The photo finisher exists on D. and P. and enlarging and he therefore strives to make his work and service as perfect as possible. Finishers, like everyone else, do make mistakes sometimes, and they do have service faults, but they always try their utmost to avoid both.

Care in Ordering

The dealer should always help to make written orders unmistakable by noting down the customer's instructions clearly and unambiguously. To take the example of a group with, say, a young lady at each end, if the order states "one P.C. of lady on right only," it should be completed by an indication whether "negative viewing" or "positive viewing" is referred to, unless there already exists a clear understanding that positive viewing is always referred to (i.e., the way the picture will appear in the print). That is one example of the way in which annoying mistakes can creep in, and unless instructions are given clearly the fault is the dealer's more than the finisher's.

"Six prints" seems error-free enough—but not when six negatives are sent in! Is the meaning "six prints of each" or "one print each of six?" The man in the shop knows, but the finisher's busy clerk has to guess, or write or telephone a query. What would you do in such circumstances, and when inundated with hundreds upon hundreds of other orders, all claiming urgent attention? Make a guess at it and hope for the best? Yes, naturally enough, and if that is what the finisher's clerk sometimes does can she be blamed? Sometimes she is wrong; and when that happens the dealer is apt to bring down the heat of his wrath upon her unsuspecting head and vow that he'll find a new finisher for next season. All he need do really is to make out his orders efficiently.

Finishers are usually pretty good at keeping to delivery schedules; they have to be because there are all the time people becoming trade finishers. No doubt an occasional lapse can be forgiven, but if orders *out of a batch* are often a delivery late the place to look for them first is in one's own shop. Maybe there is a local collection service and one merely has to drop the order into a bag, which the finisher collects and replaces by an empty bag or one containing the returned orders. If so, assistants should be instructed to glance inside the bag at "marginal" times—that is to say, at times when the collection and delivery period is at hand—to ensure that the change of bags has not already been made. If it has, and an order is popped into the bag just delivered, then that order is going to stay in the shop until the next collection and be returned one delivery late. The finisher's bad service? No, but he cannot prove it isn't.

Quality of Work

Quality in some cases is a matter of opinion; some people like "light" prints, others prefer them "dark"; some insist that glossy enlargements are best because they are brightest, while others choose semi-matt for its lustre. There are many other instances where differences of opinion might lead to the statement that such-and-such a finisher's work "lacks quality."

Where points like paper surfaces cause these opinions, the matter is easily remedied by including in the order instructions as to the surface required. The finisher's enlarger will oblige—he may even be pleased at being relieved of the responsibility of making a choice.

When image depth is the bone of contention, one man's choice has to be suf-

fered by all unless individual dealers express their preference. It is not to be expected that a finisher can get his operatives to work to different depths for each of his "choosy" trade customers, but if he gets two or three complaints he may find on investigation that one of his staff is in the habit of under- or over-developing, as the case may be, and that he can put right quite easily.

So there is no need to put up with some feature of quality with which one is not happy. Let it be brought to the finisher's notice and the chances are that he will put it right at once and thank the dealer for pointing it out to him.

With Easter just around the corner, the time is ripe to ask if all the show material required to make a good display is available. If not, perhaps the custom has been to put in a couple of print-cards and enlargements, if that is all your finisher usually sends, rather than a full display. Perhaps a friendly competitor down the street has a much more attractive and fully representative window display than one's own. And perhaps that is why he has more material—because he asks for it and uses it. Why not do similarly? Why not ask the finisher for extra material to make a good showing; believe it or not, though it is costly stuff to produce he will pile it upon you with open arms if he knows that you are going to make good use of it.

He will even prepare material so that you can arrange special displays. But ask him for it *between* holiday periods, when he is looking for work for his staff, and not during the few days before a busy holiday time when he is putting the finishing touches to his job of tuning-up his works for the expected rush.

The finisher has to handle thousands of separate orders; by comparison, the dealer may handle only dozens. Yet he collects the work (after he has helped the dealer to secure it by giving out expensive show matter free of charge), delivers it after careful processing, provides an attractive film and print wallet for each set of negatives and prints, allows a large trade discount and then a settlement discount—and throws in order pads, negatives bags and other such useful items for good measure.

All that the finisher asks in return is that the dealer comply with a few simple requests such as filling in orders clearly and correctly, using separate order forms for spools and negatives, and folding the forms in a certain way that helps him considerably in the workrooms.

The dealer who can say that he already carries out all the points dealt with here, yet is not satisfied with the finishing service he receives, should still, before he decides to make a change, have a chat with the finisher and tell him all about it. It is a ten-to-one chance that the finisher never gets to know about a customer's dissatisfaction, and that when he does he will put it right without hesitation.

ECHOES OF THE PAST

HUNTER'S RESTORATIVE BALSAM

From "The Morning Chronicle and London Advertiser," December 11, 1788

To the Nobility, Gentry, and Publick at Large.

For the benefit of emaciated Youth, and debilitated Old Age, whose constitutions have been broken, and reduced by too powerful Courses of Mercury, excessive drinking, or by those practices (too common amongst youth), which by relaxing the whole frame, bring on debility of body and mind, low spirits, melancholy, loss of memory, dimness of sight, pains in the back and loins, feebleness, paralytick complaints, and the whole train of nervous disorders. HUNTER'S RESTORATIVE BALSAM of Life and Health, is now taken by Gentlemen of the first distinction in the kingdom, as well as others, by whom it is acknowledged to possess most efficacious Properties in the Cure of Weaknesses and Natural Decays. It supplies the exhausted parts with fresh juices, and totally re-establishes the whole Nervous System. It has also been found to remove the Causes of Impotency in one sex, and Barrenness in the other, is effectual in old, obstinate Gleets, etc. Note, This Restorative is prepared in Pills, that the finer parts of the Balsams might be preserved. Full directions are sealed up with each box. To be had at the Medicinal Warehouse, No. 163, Fleet street; Mr. Matthews, Bookseller, Strand; Mr. Randall, Royal Exchange, price 6s. 3d. the box; or it may be had of the Agent, in larger boxes, price only IL. 8s. which contain the quantity of six small boxes as made up for the army, navy etc.

N.B. Country Gentlemen sending their orders by coach, etc., with cash inclosed in a small parcel, directed to Mr. Wade, stationer, No. 163, Fleet-street, may have the above sent to any part of this kingdom.

A Famphlet, on the virtues of the Restorative, with a list of Cases annexed, may be had of the Venders, price sixpence.

CAMERA SALESMANSHIP

By A. Finnis Attwell

THE hobby that is served by camera salesmen brings to their counters customers in the best of tempers, and in a mood of cheerful expectation. What better opportunity could there be for salesmanship at its highest?

Strange Neglect

In "a nation of shopkeepers" it is inexplicable that salesmanship should have been widely neglected by retail traders. Good salesmanship, besides being most interesting, pays. The manufacturers, of course, employ a wealth of specialised skill and spend vast sums of money in its service. Efficient salesmanship at the counter, though it may be of very different character, is as valuable to the retailer's business as the manufacturer's is to him. What, then, is good and efficient salesmanship in camera retailing? If asked "What is the first and most important factor in selling cameras?" some would reply: "Knowledge of the goods"; others, perhaps, "Courtesy," or "Creating confidence." All of those are most desirable. But first, the writer would look for the man who thinks about salesmanship, studies it, questions himself upon it, and who, in the light of the high standard he would set for other salesmen serving him, puts his own house in order at the start. As surely as he does these things he will find in salesmanship a growing challenge to his intelligence and personality.

Each year photographic examinations (Intermediate and Advanced) for dealers' assistants are held by the Photographic Dealers' Association. In the section known as "Oral and Salesmanship," candidates are confronted with cameras, other apparatus and accessories, etc. They are told that the goods displayed represent their stock, that they must regard the room as their shop, themselves as the salesmen, and the examiner as their customer. The writer has for years acted as examiner in this section. Knowledge of apparatus he has found good, but salesmanship, apart from exceptions, has been poor and untrained; demonstration of goods for sale sometimes bad, and often lacking order, clarity and skilful handling. The standard in both grades is, however, fortunately steadily improving. In the examination, requests are put to the "salesman" such as one meets at the counter.

Quickly one finds whether the candidate knows how to go to work upon a buyer who desires a camera. Maybe the request for a camera as a twenty-first birthday or wedding present, or for use on a Continental or world tour, taking colour photographs, or for a boy of fourteen who wants to process his own work, or "My camera gives pictures out of focus. Can you recommend something better, for all-round work?"

In the shop (as in the examination room), the worst thing the saleman can do is either to ask at once "About what price do you wish to pay?" or immediately to produce a camera and start recommending and demonstrating. A newly arrived customer is an unknown quantity. There are as many kinds of customer as kinds of camera, and so far as possible the two should be related. It is the salesman's duty to create a satisfied customer, one who will recommend the firm, and return again with confidence. How can he make a satisfied customer if he does not first study him and his needs? A few opening queries will supply essential information: What experience he has had of the hobby; whether he now has, or has had, a camera; if so, of what kind; his photographic interests; size of print required; whether he travels; his interest in colour; and so on, not forgetting interest in cine work. The opening discussion also gives time to gain the customer's confidence. How easily it may do the opposite—becoming clumsy or "superior," or tedious and overdone. The side of salemanship that precedes demonstration is of the highest importance, not only as to matter, but as to manner.

Balanced Approach

Right balance of approach is a subtle thing, calling for courtesy without familiarity, confidence without swagger, clarity without condescension. A rich vocabulary is of value only if the words come naturally and easily, with no hint of flourish in their use. Long words are without merit unless they be the most apt.

In giving a demonstration of the camera, let it be assumed that the customer has not made up his mind, at the outset, what he intends to buy. Once the salesman has greeted and questioned him and has decided on the model he intends to recommend, he must display and de-

monstrate it without hesitation. That demonstration can be done well or badly. Things will go badly if the customer keeps interrupting: "What's this for?"; "Where's the release?"; "What's the best film?" etc. That should be forestalled by asking politely and at once "If you will allow me I would like to recommend this camera and run over all its points before you put any questions. Then we will go over it again, together." If this is not done, the process becomes disjointed and the customer confused. First—open camera in hand—a brief recommendation; then, details of make, size of contact prints, number of exposures per film. Throughout the subsequent demonstration the procedure should be an ordered one. Camera specifications found in catalogues will give the idea. The writer prefers to commence with the camera closed, commenting on the body, it quality, convenience, and practical features as used. Next, opening the back, he would give brief comment on the loading device, pressure plate, and other points. With the front opened, a word or two would be given on rigidity of struts and lens support and on quality of bellows. Next would come the shutter and its speeds; the lens, its type and maximum aperture; the diaphragm and scale; and finally the focusing scale.

All this should be brief, remembering that a thorough run-over, with the customer, is to follow. On the second run-through he is shown the actual working and the image on a focusing screen held against the film plane. The method of holding the camera rigid is important; it is wise to ensure his understanding of all scales and working parts by closing the camera and asking him to take an imaginary photograph of a scene, say, 50 ft. distant, at an aperture of *f*11 and 1/50 sec. exposure. The degree of knowledge he possesses should determine the quality of technical comment and advice given, which in any case should not be overdone. It is imperative that the salesman should look cheerfully at his customer—straight in the eyes—letting his voice reflect his interest and pleasure in serving him.

He ought not to be satisfied with himself as a salesman until the pleasure, interest and courtesy he displays is, in all respects, natural and unassumed. One warning about the customer who insists on seeing half a dozen cameras before deciding; as each new camera is called for, the previous one should be closed and put aside. This may sometimes be difficult, or time-wasting; but few things are more confusing than to be confronted with many articles.

Before he leaves, with his purchase (we hope), he must be asked to bring his exposed film in for processing and told that the results can be discussed helpfully when he calls. It is then, or later, that further sales of accessories may be made. At the time of the first sale it is not wise to try to sell too much.

Space is limited and hence nothing has been said of cine cameras, miniatures, or range-finder models. The example used in the imaginary demonstration and sale was of the most popular type, the roll-film folding camera. The accent has been deliberately placed on "salesmanship" rather than on "camera," on the spirit, tact and zeal of the salesman rather than on anything approaching that nuisance—high-pressure selling! To sum up: Every camera salesman a keen amateur photographer—a member of a camera club—a lover of the finest hobby in the world.

NEWCOMER'S NOTEBOOK
7.—Photographic Dealers' Association

FORMED in 1914 by some 500 photographic dealers, the Photographic Dealers' Association set out to obtain unanimity among photographic dealers on trade policies, the prevention of price cutting, the drawing up of a scale of retail developing and printing prices and the negotiating of discount terms with manufacturers. Subsequent to the 1914-18 war there was a great expansion in the number of photographic retail outlets, and by 1927 the position had become serious, because about 2,000 additional agents were being appointed annually by the manufacturers. By proving that those extra points of distribution were not necessarily adding to the volume of trade but merely diverting it from the previously established outlets, the Association led the manufacturers to adopt a more rational policy.

In 1938 an education committee was appointed to formulate an examination scheme to give a status to dealers and their assistants. The examinations cover three aspects of photographic dealing: Practical, for which candidates are required to submit negatives, prints and enlargements; a written paper testing the examinees' knowledge of the theory behind photography; and an oral test in which their ability to demonstrate apparatus and explain technique is assessed.

The Association is administered by a Council consisting of elected representatives of twenty areas in the British Isles.

Between 70 and 80 per cent. of the membership of over 5,000 are retail pharmacists. The Association has a code of ethics.

General secretary: Mr. E. J. Andrews, P.D.A. House, 46 Bloomsbury Street, London, W.C.1.

DEVELOPING, PRINTING AND ENLARGING PRICES

Photographic Dealers' Association Revised Schedule, March 1952

Developing

ROLL FILM (other than miniature).

	Spool
Ordinary	1s. 0d.
Fine grain	1s. 3d.
Bantam and similar ...	1s. 3d.

Total failures: 50 per cent charge.

MINIATURE SPOOLS (24 x 36 mm. negatives and smaller).

1-18 exposures	1s. 6d.
19-36 exposures	2s. 0d.

Total failures: 50 per cent. charge.

PLATES AND SHEET FILM (minimum charge 6d.).

Up to $2\frac{1}{2}$ x $3\frac{1}{2}$ in.	each 3d.
4 x 5 in.	each 4d.
$4\frac{1}{2}$ x $6\frac{1}{2}$ in.	each 6d.
$6\frac{1}{2}$ x $8\frac{1}{2}$ in.	each $7\frac{1}{2}$d.

Contact and Other Prints

CONTACT PRINTING (masked or unmasked).

Paper size up to $2\frac{1}{2}$ x $3\frac{1}{2}$ in.	each $3\frac{1}{2}$d.
$3\frac{1}{2}$ x $4\frac{1}{2}$ in.	each 4d.
$3\frac{1}{2}$ x $5\frac{1}{2}$ in.	each $4\frac{1}{2}$d.
$4\frac{3}{4}$ x $6\frac{1}{2}$ in.	each $6\frac{1}{2}$d.

Sepia toning, 50 per cent. extra.

MINIATURE CONTACT PRINTING (24 x 36 mm. and smaller negatives).

Single prints, masked ... each $3\frac{1}{2}$d.

From two or more adjacent negatives (unmasked) priced according to size.

STRIP-PRINTS (on paper from 35-mm. films).

1-18 exposures 24 x 36 mm. strip	2s. 6d.
19-36 exposures 24 x 36 mm. strip	3s. 6d.

EN-PRINTS

From the whole of the negative only, magnified as large as possible on $2\frac{1}{2}$ x $3\frac{1}{2}$ in. or $3\frac{1}{2}$ x $4\frac{1}{2}$ in. paper. "Large" or "small" to be stated when ordering.

Both sizes, black and white each 6d.

Both sizes, sepia toned ... each 9d.

En-prints from square negatives will be $3\frac{1}{2}$ x $3\frac{1}{2}$ in. or $2\frac{1}{2}$ x $2\frac{1}{2}$ in.

Enlargements

POSTCARD-SIZE ENLARGEMENTS ($3\frac{1}{2}$x$5\frac{1}{2}$ in).

From whole or any selected part of a negative, black and white each 9d.
sepia each 1s. $1\frac{1}{2}$d.

See also first-quality enlargements.

ENLARGEMENTS, FIRST-QUALITY (unmounted).

From any selected portion of the negative, including shading, vignetting and spotting, if required. The dimensions quoted are standard sizes of enlarging papers, and are subject to trimming. The varying proportion of length to width in the negative often necessitates the finished picture being trimmed to correspond.

PAPER SIZE	B. AND W.		SEPIA		MOUNTING	
Up to	each		each		extra	
	s.	d.	s.	d.	s.	d.
$3\frac{1}{2}$ x $5\frac{1}{2}$ in.	0	9	1	$1\frac{1}{2}$	—	
$4\frac{3}{4}$ x $6\frac{1}{2}$ in. ($\frac{1}{2}$-plate)	1	6	2	3	1	6
$6\frac{1}{2}$ x $8\frac{1}{2}$ in. (whole plate)	2	6	3	9	2	0
8 x 10 in.	3	6	5	3	2	6
10 x 12 in.	4	6	6	9	—	
12 x 15 in.	5	6	8	3	—	

COPY NEGATIVES

From photographic originals only. Books, maps, etc., charged extra.

Up to

$\frac{1}{4}$ plate, 3s. 0d. $3\frac{1}{2}$ x $5\frac{1}{2}$ in., 4s. 0d.
$4\frac{3}{4}$ x $6\frac{1}{2}$ in., 5s. 0d. $6\frac{1}{2}$ x $8\frac{1}{2}$ in. 10s. 0d.

LANTERN SLIDES

From customers' negatives $3\frac{1}{4}$ x $3\frac{1}{4}$ in. or 2 x 2 in.

Bound complete ...	each 3s. 0d.
Unbound and without cover glass	each 2s. 0d.
Masking and binding between cover glass, customers own transparencies ...	each 1s. 0d.

Sepia toning 50 per cent. extra.

AFTER TREATMENT

Cleaning, washing, intensifying, reducing, etc.

Single negatives, ...	each 9d.
Each additional negative	3d.
Blocking out, according to work required, minimum	1s. 0d.

Empty Film Reels Wanted. — Owing to the reduced availability of sheet metal for the manufacture of film reels, shortage of reels is likely to reduce the quantity of roll film available later in the year. The co-operation of photo-finishers is sought to return to manufacturers their empty reels.

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INFORMATION WANTED

The Editor would appreciate information about suppliers of the following items:

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Official organ of The Pharmaceutical Society of Ireland, The Pharmaceutical Society of Northern Ireland, The Chemists' and Druggists' Society of Ireland and of other Chemists' Societies in the Empire.
VOL. CLVII MARCH 29, 1952 No. 3762

Guidance to Doctors on Drug Costs

DETAILS of the first number of "Prescribers' Notes" a new publication acquainting doctors in the National Health Service with the cost of drugs (see *C. & D.*, March 22, p. 382) were released for publication on March 27. The notes, which are supplied in a loose-leaf binder for storage with patients' record cards, are intended to offer examples of prescribing that might have been more economically done if information on costs had been available. To ensure that the notes shall be as practical as possible, the Ministry's editor has been helped by an editorial committee that includes general-practitioner nominees of the B.M.A. General Medical Services Committee. The composition of the committee should dispel any suspicion that the notes might be a disguised attempt to limit the "unfettered right of the doctor to prescribe for his patient what he is satisfied is necessary."

The first number deals with surgical dressings; chloramphenicol; and prescribing statistics, with particular reference to proprietary preparations. Diagrams help to drive home points such as the sixteen-fold difference between 1 oz. and 1 lb. of absorbent lint and cotton wool. A special note is made of the usefulness of multiple-pack (M.P.) dressings, which were included in the Drug Tariff at the request of the British Medical Association.

Under chloramphenicol are listed, more concisely than in the "Notes for Prescribers" given at the beginning of the new National Formulary (see p. 450), the conditions (rare in Britain) for which the drug is superior to sulphonamides or penicillin, and the conditions in which the value is not fully substantiated or even evident. The cost of a week's treatment with sulphonamides or penicillin (10s.) is contrasted with that for chloramphenicol (£10).

The prescribing statistics chosen show that the cost per patient for medicine increased from 75.9d. in the final year of National Health Insurance to 185.1d. in 1949 (the most recent figure available under the National Health Service); and the average cost of a prescription from 19.96d. to 36.80d. in the same period. Types of medicament, etc., prescribed during 1950 are tabulated as follows:—

ITEM	DISTRIBUTION BY NUMBER (percentages)		DISTRIBUTION BY INGREDIENT COST (percentages)
Mixtures	29	82	8½
Tablets, pills, capsules, etc.	20¼		13
Linctuses, elixirs, emulsions, powders, etc.	15		15½
Ointments, etc.	4¼		2
Lotions, gargles, applications, etc.	4½		1
Appliances (including trusses and elastic hosiery) ...	9		16
*Proprietary preparations ...		18	44
		100	100

By filing successive numbers of the Notes, doctors should amass a useful volume of information: an index is promised. It would be a useful move, in order that pharmacists should be able to answer questions that they are bound to get from doctors and to adjust their stocks to cope with the prescribing changes that may result from doctors' acting upon the information given, that pharmacists also should receive copies. The lack of opportunity to study a publication that indirectly affects their work may place pharmacists on occasion in an embarrassing position.

*In 1947 proprietary preparations accounted for 7 per cent. of all prescriptions, and 24 per cent. of the total ingredient cost.

The Pharmacist and the Photographic Trade

PHOTOGRAPHIC requisites have for so long formed a normal part of the chemist's stock-in-trade that the origin of photo-dealing in the pharmacy may have been forgotten. The chemist and druggist may claim that, as photography depends largely on a chemical process, it is right and proper that he should handle photographic materials and equipment. But the claim can be challenged. To begin with, a photograph is the result of a union of two sciences: optics and chemistry. At once, therefore, it may be argued that the optician has at least equal claim to his share of business in photographic requisites. Are there any others with reasonable claims? In the early days of photography, when the would-be photographer wanted to buy a camera, did he go to his chemist? It was unlikely. Few, if any, chemists stocked photographic apparatus, which, generally speaking, was hand-made and distributed by specialist dealers. Thus the instrument maker is another claimant to the handling of photographic business. At the shop where the same pioneer photographer purchased his camera, he might have obtained his dry plates, though, at one stage, he might have had to sensitise his own. Not until he required materials for processing his exposed material did the photographer of those early days enter the pharmacy, where he asked for such items as pyro, "sodas" (sodium carbonate and sodium sulphite), hypo, potassium bromide, etc. Even in the early 1920's there were few varieties of packed developers. In point of fact, therefore, the chemist was last in the chain of suppliers. It is interesting to recall that the founder of the Ensign photographic business was a Mr. Houghton, a glass merchant, whose stepping-stone to photography was the supply of specially suitable glass for the photographer of the day.

So long, in fact, as plates were the only negative materials available, amateur photography appealed to comparatively few individuals, who carried out the development and printing of their exposed plates. Not until the introduction of daylight-loading roll film by the Eastman Dry Plate and Film Co. in 1891 was the way paved for popularising photography as a hobby for the masses. Professional photographers who had met the demands of the enthusiastic plate-using amateur looked askance at the innovation, fearing that it would deprive them of their professional living, and refused to handle roll-films and the new cameras that had been designed to use them. The manufacturers thereupon offered their products to chemists, who agreed to distribute them. Photography then became a part of the chemists' normal business. The new army of photographers, however, cared little for the technical aspects of their picture-making, and were content to entrust the "finishing" of their pictures to others. Thus was paved the way for the extensive D. and P. business of today. The success of Eastman's roll-film distributing venture was such that other retail outlets became anxious to take a share in photo-dealing, and today the pharmacist must maintain an active interest in photography if he is not to be outstripped by competitors such as the specialist dealer, the optician, instrument maker and others.

Overseas Trade in February

UNITED KINGDOM exports in February totalled £227.9 millions, 9 per cent. less than in the previous month. That was—allowing for the shorter working month—only a little below the rate for January. Imports, at £296.9 millions, were lower, reflecting in part the recent import restrictions and the usual pattern of trade for February. The adverse trade balance was down to £52.8 millions.

Exports of drugs, medicines and medical preparations totalled £2,840,197—about £370,000 less than in January. Most of the commodities in this section naturally show declines over the previous month. An exception was aspirin, which recovered to £78,163 from £48,134 (the lowest figure for almost a year). In quinine (£35,732) and insulin (£35,681) February, 1952, compares unfavourably with February 1951, when exports were £53,857 and £45,832 respectively. Preparations of penicillin for injection totalled £191,932; penicillin salts, £227,050, and other penicillin preparations, £43,105, whilst other

antibiotics amounted to £241,058 against £211,504 in January. Antipaludics (£107,467), though less than in January (£168,925) were up on February, 1951 (£81,705). Of the total of sulphonamides exported (value £261,120) just under one-half was reckoned to be tablets. Ointments and liniments were valued at £89,083, and though that was the lowest monthly figure recorded since June, 1951, it was substantially higher than in the previous February (£62,827).

Australia was the largest single importer, taking drugs, etc., to the value of £275,086, plus proprietary medicines, £32,772. Comparative figures for India were £268,936 and £29,450, and for Pakistan £125,081 and £44,842 respectively. The total value of proprietary medicines exported dropped to £495,189.

Perfumery and toilet preparations (excluding perfumed spirits and soaps) totalled £472,711 (against £601,283 in January). Of that total, tooth-pastes, etc., accounted for £89,984 and cosmetics for £155,682. Other export totals were perfumed spirits, £49,465; essential oils, £102,194, and toilet soaps, £188,213.

Imports of essential oils during the month showed a steep rise to £588,634 (from £487,970 in January). They were even higher than in February, 1951 (£568,243), when no import restrictions were in force.

CORRESPONDENCE

Letters may be sent for publication under an assumed name, but the correspondent must furnish his real name and address to the Editor

Centenarian Feats

SIR, — My father, William Samways, took over this pharmacy in 1850, and I am still running it. When I have beaten the record of 109 years reported in your issue of March 15, I will write to you again.

ERNEST R. SAMWAYS.

Gillingham, Dorset.

British Pharmaceutical Conference, 1952

SIR,—The annual meeting of the British Pharmaceutical Conference for 1952 will be held in Nottingham, September 1-5 inclusive. The usual science sessions will be held for the reading and discussion of papers, and we shall be glad to receive communications from research workers on subjects of pharmaceutical interest. It would be helpful if those who propose to contribute a paper would let us know the title as soon as possible. The latest date for the receipt of manuscripts is July 1. Contributions accepted for the Conference will be published in the "Journal of Pharmacy and Pharmacology," and authors will be entitled to a limited number of reprints. Papers should be as concise as possible, and a maximum of 4,000 words is suggested. In order to ensure adequate time for the reading and discussion of all the papers submitted, the time taken in reading each paper must be limited. Authors are accordingly asked to submit with their manuscripts a *précis* of their contribution not exceeding 750 words, and to present their paper to the Conference by reading that *précis*. Diagrams and lengthy tables need not, in general, be included in the *précis* because, by courtesy of the editor of the "Journal of Pharmacy and Pharmacology," copies of each paper in full will be available as usual before the Conference meets. Details of the programme and arrangements for booking accommodation will be published shortly.

H. TREVES BROWN,
H. G. ROLFE,
Honorary General Secretaries.

17 Bloomsbury Square, London, W.C.1.

A Disciplinary Matter

SIR,—I would join Senex (*C. & D.*, March 22, p. 399) in supporting a fund for an appeal to the High Court against the decision of the Statutory Committee in the recent case involving a Somerset pharmacist.

NOT STRAINED.

Pakistan International Industrial Fair.—Fourteen countries hold national pavilions at the second International Industrial Fair now being held in Pakistan. Representation from the pharmaceutical industry within the British exhibition is reported as "disappointing." "Apart from a small showcase of products of Imperial Chemical (Pharmaceuticals), Ltd., there is nothing to suggest that Great Britain was Pakistan's primary supplier of drugs last year."

THE NATIONAL FORMULARY, 1952

By J. W. Hadgraft, Ph.C., A.R.I.C.

With the 1952 edition of the National Formulary, just published, a further step has been taken in the attempt to reconcile within the Formulary the viewpoint of the pharmacologist with that of the general practitioner. A number of the older preparations have been deleted and opportunity has been taken to include new preparations, the therapeutic efficiency of which is based on sound pharmacological evidence. Nevertheless, many of the preparations from the previous edition remain unchanged. The notes for prescribers have been considerably expanded and include sections on first-aid treatment of poisoning, analgesic drugs, antacids, antibiotics, anti-histamine drugs, expectorants, purgatives, tonics and vitamins in addition to the notes included in the 1949 edition which have been revised and brought up to date. A single edition still has to answer the needs of both pharmacist and doctor. A compromise has been sought, however, by including a pharmacological classification in which all the preparations are listed according to their therapeutic effects.

English Names Emphasised

Whilst this edition of the N.F. has not completely adopted English titles for its preparations, the main headings of the formulary section are stated in English (e.g., eye-drops instead of guttæ). The individual preparations are listed alphabetically according to their Latin names but alternative English names are included, thus foreshadowing the possible exclusive use of English in the next edition. This innovation should be welcomed by those concerned with teaching pharmacy to medical students who find the Latin titles very confusing and rather superfluous. Whether it will be equally acceptable to the older generation of pharmacists and doctors remains to be seen.

The trend of therapeutics in favour of tablets and injections is again evident. Thirteen new injections (including the various forms of procaine benzylpenicillin and streptomycin) have been added, whilst only three (œstradiol diproprionate, oily injection of penicillin and sulphathiazole sodium) have been deleted. Other notable additions are injection of amidone hydrochloride and injection of cyanocobalamine (vitamin B_{12}) both of which were included in the 1952 Supplement to the British Pharmaceutical Codex. There are nineteen additions of tablets, many of which were foreshadowed by the B.P.C. Supplement and the 1951 Addendum to the British Pharmacopœia, whilst only four (compound tablets of digitalis, tablets of mercury with chalk, tablets of œstrone and tablets of potassium bromide) have been deleted. Six of the new tablets have not been included in either the B.P. Addendum or the B.P.C. Supplement. Soluble aspirin tablets consist of a formulation of acetylsalicylic acid with calcium carbonate which, when added to water, react together to form a solution of calcium aspirin. Two antihistamine tablets (mepyramine maleate and promethazine hydrochloride) are prepared from B.P. substances although there are, at present, no official standards for the tablets, presumably because the B.P. provides standards only for uncoated tablets. Similarly, quinalbarbitone sodium B.P. is made into sugar-coated tablets. Belladonna and belladonna and phenobarbitone tablets, which are also included in the Formulary, have not previously been included in the Codex or Supplement.

There have been a number of alterations in preparations used for external application. Antazoline cream is a new N.F. preparation to answer the need for an anti-histamine cream, whilst buffered cream (cremor normalis) has a *p*H value of about five and is a suitable preparation for conditions in which a slightly acid cream is required. Antazoline cream is prepared with triethanolamine stearate and must be recently prepared. Three paints have been deleted whilst brilliant green and crystal violet paint (pigmentum tinctorium, B.P.C.) has been included for the first time. Three new pastes have been added (of salicylic acid with dithranol; yellow mercuric oxide; and titanium dioxide).

Ointments

Only one new ointment has been added (of zinc undecylenate, for fungal infections), whilst three ointments have been deleted (compound and dilute mercury, and ointment of mercury oleate). Whitfield's ointment has undergone modification and is now prepared with emulsifying ointment in accordance with the B.P.C. supplement.

(*To be concluded*)

PHARMACEUTICAL SOCIETY OF NORTHERN IRELAND

A MEETING of the Council of the Pharmaceutical Society of Northern Ireland was held in Belfast, on March 21, the vice-president (Mr. W. H. Boyd) in the chair. Also present were Messrs. H. P. Crossin (treasurer), S. E. Campbell, H. F. Moore, J. Irwin, H. J. Cousley, M.B.E., J.P., J. McGregor, S. Abernethy, W. P. Ewart, Dr. H. D. Heazley and Professor E. B. C. Mayrs, M.D. The secretary (Mr. W. Gorman) was in attendance. Apologies for absence were received from the president (Mr. H. W. Gamble) and Messrs. F. R. Moore, J.P., Walter C. Tate, P. R. W. Shinner and H. H. Cowzer, J.P.

Composition of Register

The memorandum on pharmacy administration for the year ended December 31, 1951, from the Ministry of Home Affairs, stated that the numbers of names on the register for December 31, 1949, 1950 and 1951, respectively, were as follows:—

Category	1949	1950	1951
Pharmaceutical chemists ...	877	898	959
Superintendents of bodies corporate (Ph.C.)	112	119	120
Registered druggists ...	33	33	30
Superintendents of bodies corporate (R.D.)	5	4	4
Apprentices ...	384	393	465

Thirty-two apprentices qualified by examination as pharmaceutical chemists and were registered as such, during the year. The numbers of licences issued in respect of the years ended December 31, 1949, 1950 and 1951, respectively, were:—

	1949	1950	1951
Pharmaceutical chemists ...	566	577	607
Registered druggists ...	23	20	20

Of the total number of pharmaceutical chemists' licences 149 were issued to bodies corporate and twenty-two to executors of deceased pharmaceutical chemists. Four of the registered druggists' licences were issued to bodies corporate. One company holding a licence to supply poisons for agricultural and horticultural purposes was convicted for failure to comply with the provisions relating to the storage of poisons. One person was convicted under Section 5 of the Medicines, Pharmacy and Poisons Act (N.I.) 1945 for selling medicines by retail other than at a shop. The Ministry of Home Affairs had approved the examiners appointed by the Council.

On the motion of MR. MCGREGOR, seconded by MR. H. F. MOORE, it was agreed that an appeal for members of the British Association Conference to be held in Belfast in September should be circulated to members of the Society.

Ciba Laboratories, Ltd., had requested the Council to give consideration to the exemption from the Poisons Regulations of preparations containing cinchocaine in a concentration of 2 per cent. or less when intended for external application. The company stated that there were no dangers or disadvantages in such an exemption and pointed out that the Poisons Board in Great Britain had recommended that course. PROFESSOR MAYRS said that it would be better to wait and see what was done in Great Britain although he did not think that there would be any objection to the exemption. On his motion, seconded by MR. COUSLEY, it was decided to inform the company accordingly.

The application of Mr. William Cyril Green, Londonderry, for registration was approved under their reciprocity agreement with the Pharmaceutical Society of Great Britain.

Veterinary Sales

The Executive Committee of the Ulster Chemists' Association had drawn the attention of the Council to the increasing sales of medicinal and veterinary preparations from vans in country areas and asked that some action should be taken. The Committee had also drawn attention to advertisements by hatcheries offering phenothiazine and other drugs for sale. THE VICE-PRESIDENT said the first complaint had cropped up on many occasions and from reports received it would seem that the sale of penicillin preparations by chemists and others without prescriptions had also reached serious proportions. He thought the time had come when the Council should consider either an amendment to the law or its enforcement. He suggested

that the matter should be referred to the Law Committee for discussion with the pharmacy inspector. Mr. Ewart thought that some chemists' shops were selling penicillin preparations *ad lib.* and was supported by Mr. Cousley who said that action was necessary to prevent the indiscriminate use of penicillin. Mr. Campbell said that difficulties also arose because penicillin preparations could be purchased in Eire without prescriptions. He thought a clear case had been made out for prosecutions to be brought. Mr. Crossin said he thought it was also illegal for chemists to sell from vans and that such cases should be investigated by the Inspector. Mr. McGregor said the explanation was sometimes put forward that the goods carried by vans had been ordered from the shops and were being delivered. Mr. Gorman said some doubts had been raised whether or not it was legal for poisons to be sold from vans. It had also been said that there was great difficulty in administering the Penicillin Act. Chemists who were observing the law were being forced into the position in which they had either to supply penicillin preparations without prescriptions or lose part of their business. On the motion of Mr. McGregor, seconded by Mr. Campbell, it was decided to refer the matter to the Law Committee for further consideration. The Vice-president said that it was probably legal for hatcheries to deal in the drugs.

For the first time for some months no applications for the certificate of apprenticeship had been received.

Subject to the convenience of the Belfast College of Technology the next examinations will be held in the weeks beginning June 16 or June 23.

The president, treasurer and secretary were appointed to investigate the question of the examiners' salaries and to prepare a recommendation for the Council.

The thanks of the Council were expressed to Mr. H. F. Moore for the success of his efforts in organising the Society's annual dinner-dance.

END OF STEAMY WINDOWS IN SIGHT?

The discovery recently of a method of coating glass with a transparent, electrically-conducting film may help to solve the problem of steaming in shop windows. It may prove to have other medical and scientific applications. The discovery was made in the Light Division of the National Physical Laboratory, Teddington.

The property of the film that shows promise in combating steamy windows is its electrical resistance. This causes heat to be generated when an electric current is passed through the film, thereby warming the glass. So far, the investigations have been directed to ice dispersal on aeroplane windscreens, etc., and the details of coating large panes of glass, and of warming shop windows, remain to be worked out. It is thought, however, that the consumption of electricity for a window about 10 ft. square would not be more than the equivalent of a few 100-watt lamps. The film is formed on the glass by a process of "spluttering," in which the sheet of glass is placed in a metal chamber a short distance below a sheet of pure tin. The tin acts as a negative electrode, and the metal chamber as a positive electrode. The chamber is evacuated and then filled with argon at a low pressure, and a high-voltage discharge is passed between the two electrodes. The tin sheet disintegrates slightly under the electrical bombardment, and tin is deposited on the glass. The conditions are controlled empirically, however, so that part of the tin is converted during the process to oxides. The film (of amorphous oxides and excess tin) is then heated to about 300-350° C. on a hot-plate, where chemical and physical changes take place yielding a transparent, electrically-resistant film, believed to consist of stannic oxide. It is mechanically hard, and withstands immersion in aqua regia and caustic alkali. Different thicknesses of film can be produced, the one with optimum transparency transmitting only about 15 per cent. less light than uncoated glass. At present, difficulty in the way of use of the film on a large scale is the high electrical resistance (about 1,000 ohms for a square of any size). Studies continue, however, on the coating process and are being extended to other types of film. The tin films are suitable for inclusion between laminations of glass.

Other uses for the coated glass are in destroying the insulating property of glass in, for example, delicate instruments that are affected by charges of static electricity, and in reducing the risk of explosion through static-electricity ignition of dangerous vapours (e.g., in certain types of anæsthetic apparatus). The properties of the film were discovered unexpectedly during work on photo-electric cells.

OVERSEAS ECONOMIC SURVEYS

COUNTRIES dealt with in Overseas Economic Surveys issued recently by the commercial relations and exports department of the Board of Trade include Canada, Venezuela, Nicaragua, El Salvador, Italy, Switzerland and the United States.

Copies of the surveys can be obtained from H.M. Stationery Office. Abstracts concerning the pharmaceutical and allied industries are given below.

Canada

In Canada in 1949, the chemical and allied industries achieved a record peace-time output valued at $595 millions, medicine and pharmaceuticals accounting for $79,685 and toilet preparations for $16,877. Imports of chemicals, etc., have steadily increased from $80 millions in 1945 to over $130.7 millions in 1949, in which year purchases from the United States were worth $115 millions or 88 per cent. of the total value, and those from the United Kingdom 6.4 per cent. Imports of drugs, medicinal and pharmaceutical products amounted in 1948 to $13.2 millions, in 1949 to $14.8 millions and in January-September 1950 to $14.4 millions. Included in the figures are imports of alkaloids and their salts, which were respectively $483,434, $637,843 and $490,495. As the following table shows, most drugs, medicinal and pharmaceutical products came from the United States, though the United Kingdom preponderated in the supply of alkaloids.

Commodity	Total Imports	From United States	From United Kingdom
Alkaloids and salts 1949	638	86	398
January-September 1950	490	43	431
Pharmaceuticals, etc. 1949	14,191	12,822	745
January-September 1950	13,907	12,623	704

In 1948 215 factories in Canada were engaged in the manufacture of medicines and pharmaceuticals. The gross selling value of their products ex works in that year was about $72 millions, and in 1949 nearly $80 millions.

Venezuela

No statistics are available of the production of pharmaceuticals and medicinal products in Venezuela, but production is estimated to amount to between 20 and 25 per cent. of total consumption. There are forty-four manufacturers in the country, seven of them branches of foreign companies, and a number manufacturing foreign specialities under licence. Chemical syntheses were started only recently. Until development is at a higher level all raw materials used in the industry will continue to be imported ready for mixing. A number of hormone products and injections are produced locally. The manufacture locally of specialities of at least two well-known German drug-houses is planned.

Perfumery valued at Bs.* 1.4 millions was imported during 1949, mainly from France, the United States and, to a lesser extent, the United Kingdom. The United Kingdom share of the market is restricted almost entirely to a well-known brand of lavender water, though there are encouraging signs of activity by other U.K. manufacturers. There is a market in the country for the luxury types of toilet soap, and two well-known brands are being manufactured in the country. Local industry is protected by a customs tariff. Total importation of soaps in 1949 amounted to 1,437 metric tons, valued at Bs. 2.9 millions. The U.K. has a large share of the market for disinfectants, which are imported free of duty but subject to the approval of the Ministry of Health. At least 75 per cent. of drugs and pharmaceutical products are imported. Those from the United States predominate. There are no import restrictions apart from the necessity to register all products with the Ministry. Pharmaceutical products in general are subject to import duty at the rate of Bs. 0.2 per kilo gross weight. It is estimated that there are 800 pharmacies in Venezuela, about one-third situated in Caracas. The consumption per head of drugs and medicines is estimated at Bs. 18 per annum. The predominance of the United States is due to many factors, not the least of them the activities, during the second world war, of powerful U.S. corporations which replaced the large German drug concerns. Another important factor has been the tendency during the past ten years for Venezuelan doctors to study in the U.S. (where fellowships are open to them) rather than in Europe as previously. Among exports are tonka beans, obtained from the sarrapia tree found in the rain forests of the highlands of Venezuelan Guayana.

*Bolivars, 3.35 to the U.S. dollar.

Nicaragua

Though chemicals and pharmaceuticals are among the principal imports into Nicaragua from the U.K. their sales are dwarfed by those of the U.S., which supplied 83.5 per cent. of the country's requirements in 1949. Local production of ipecacuanha is purchased almost entirely by the London market, and is the only stable export to the U.K. It amounted in 1949 to 39 metric tons, valued at U.S. $325,000.

El Salvador

The demand for goods such as soaps, toilet preparations, perfumery and prepared medicines, which have traditionally been supplied by the United Kingdom, continues firm, leading to higher imports. It is generally felt in the trade, however, that the supply of many of those products from Great Britain has fallen short of demand. The possibility of increasing Britain's share of the market rests largely upon the availability of supplies, and British exports suffer from the transit times of cargoes, for traders in El Salvador can obtain deliveries from the United States and even, at times, from Europe in a fraction of the time taken by vessels from Britain.

United States of America

The chemical industry in the United States has continued to expand rapidly until today it is probably the foremost industry in the country. Perhaps the largest concentration of laboratory effort is devoted to pharmaceutical chemistry. Penicillin was—in April 1951—only one of 107 antibiotics produced that together account for 50 per cent. of the dollar sales of "ethical" drugs. Work on many compounds has been assisted by the growing availability of radioactive and stable isotopes. The application of ion-exchange resins in fields other than atomic energy is under extensive study. American industry, and the American Government, allot huge sums to scientific research. While U.S. universities have been passing out more engineers than scientists, United Kingdom universities' output of engineers and technologists, on whom industry must rely for the application of new discoveries, was less than 70 per cent. of that of "pure" scientists. The large domestic production of chemicals and pharmaceuticals in U.S.A. leaves little scope for U.K. manufacturers.

Italy

Though the U.K. has declined in relative importance as a source of imports into Italy (principally because of the lack of coal exports), considerable trade has been carried on between the two countries since 1945. In 1938 the U.K. supplied 6.5 per cent. of Italy's imports and absorbed 5.6 per cent. of her exports. In 1947 the respective percentages were 2.1 and 9.1; in 1948, 3.3 and 7.6; in 1949, 4.0 and 10.6; and in 1950, 5.6 and 11.5. Production of sulphur has been below pre-war levels, owing to high costs of production; but has recovered recently because of the acute world shortage. A programme of expansion of production to 450,000 metric tons by 1954-55 is in operation. In 1939 the Italian chemical industry was fourth in Europe, employing 135,000 workers. The 1939 45 war gave it a considerable impetus to expand and develop, and though war damage caused dislocation, recovery after 1945 was rapid, thanks to foreign aid programmes. By the end of 1946 production was 60 per cent. of its pre-war volume. The industry is able to satisfy home demand for nearly all products, and to export considerable quantities. Exports of inorganic chemicals amounted to 156,000 metric tons in 1948, against 39,000 in 1947 and 94,000 in 1938. The main items were aluminium oxide, sulphuric acid, phosphorus, and barium sulphate. The exports of medicinal substances and pharmaceuticals in 1948 and 1949 were at about pre-war level (11 to 12,000 metric tons). In 1950 they rose to 16,000 tons.

Switzerland

In the first quarter of 1951 Swiss imports from the U.K. reached their highest level, 116 million francs. The value of pharmaceuticals was 2.8 million francs against 3.8 millions for the whole of 1950. Exports of pharmaceuticals to the U.K. in the same periods were 1.1 and 3.6 millions respectively. From 1948 until the autumn of 1950 there was a downward trend in the number of workers employed in the chemical and pharmaceutical industries but the total was still 70 per cent. higher than before 1939.

In 1948 there were nearly 3 million persons covered by the State Health Insurance. Total payments were 209 million francs; medical fees accounted for 60 per cent., sickness benefits, 25 per cent., and administrative, 10 per cent.

TRADE REPORT

Spot quotations for pharmaceutical chemicals represent the prices for wholesale quantities of standard quality. Prices of crude drugs and essential oils vary as to brand or grade.

LONDON, MARCH 26

MANUFACTURERS of BROMIDES have reduced their schedules by threepence per lb. from March 24. During recent months Germany has been a strong competitor in this field, and the price reduction—the second within three months—should help to maintain the present demand for domestic material. Production of PENICILLIN has to some extent overtaken demand. Exports of penicillin SALTS during February (see p. 448) showed a decline over the February 1951 figure, reflecting the adequate stock position in some countries. Other countries previously dependent on British supplies now operate their own manufacturing and packing plants, filling their own domestic needs and in some instances producing a surplus to compete in the world markets.

The price trend in CRUDE DRUGS continued downward, and most commodities were in poor demand. Full details of the recent Portuguese control of exports (see *C. & D.*, March 22, p. 410) have now been received in London. Exporters of ERGOT will not be required to deposit 30 per cent. of the value with the Portuguese Bank. Instead, a quota of 50 per cent. less than the value of exports in 1951 has been fixed. The volume of trade during that year must have been considerably below normal, so far as the United Kingdom was concerned, because of the exceptionally high prices that prevailed. It is difficult to forecast what effect, if any, the new regulations will have on the future market for this commodity. Gathering of ALOES in South Africa has been almost negligible during the past few months, owing to drought conditions in many areas. Only small stocks of prime Cape are now available for shipment, but holders of spot material here are willing to accept offers well under the c.i.f. prices. In the AROMATIC SEEDS market, CORIANDER was more or less unchanged during the week and no business was reported in CUMIN. Owing to a steadier tone in the Calcutta market, SHELLAC maintained its previous values on the spot and some hardening is forecast in the next week or so. Despite the recent £25 per ton reduction in U.K. ANTIMONY prices, merchants find that when they offer it on the new basis for export to the Continent they are slightly undercut by other countries. In view of increased world output, especially in South Africa, prices are expected to fall still further. The Ministry of Food announces that consideration will be given to applications to import a limited quantity of AGAR from Japan up to June 30. A warning is given that it may not be possible to issue import licences to meet full requirements. The news brought about an immediate decline in the high prices recently asked for material on the spot or close at hand. Supplies of Prime No. 1 Tinnevelly SENNA LEAVES are short on the spot, and there are no f.a.q. PODS.

Chinese MENTHOL is again weaker on the spot. New-crop BUCHU LEAVES are now landing. GUM ACACIA was quoted 12s. 6d. per cwt. higher for spot material, though prices at origin declined slightly. All WAXES were unchanged.

French prices for OLIVE OIL at source have weakened appreciably during the past few days though the weakening has not been reflected in the spot quotations since the amount of oil that can be imported is controlled. At least one manufacturer of COD-LIVER OIL has announced reductions in the price of pure and veterinary grades. ESSENTIAL OILS that continued firm include ANISE, GERANIUM and SPEARMINT. Spanish spike LAVENDER, LEMONGRASS, PATCHOULI (Penang). English-distilled NUTMEG, CITRONELLA (Ceylon and Formosa) and PALMAROSA were lower in price.

The Ministry of Food announces that no change is being made in the prices of unrefined oils and fats and technical animal fats allocated to primary wholesalers and large trade users during the period ending April 19.

U.S. Drug and Chemical Report

NEW YORK, MARCH 25

No definite market trend has been evident in American chemicals during the past week, although most of the price shifts have been in a downward direction. Competitive conditions have brought reductions in penicillin precursors, with both PHENYLACETAMIDE and BETA-PHENYLETHYLAMINE being cut to $1.10 per lb. (down 15 cents).

Low-priced offerings of Brazilian MENTHOL for April shipment, ex Holland, were made at $5.35 per lb. Further reductions were made in BALSAMS. TOLU, now at $5.05 per lb., was down 5 cents and PERU, $1.60 (5 cents). In ESSENTIAL OILS Bourbon GERANIUM rose to $15.00 per lb. (up $2.25 and ANISE at $1.65 was up 5 cents. Lower per lb. were: PIMENTO LEAF, $2.60 (down 15 cents); WORMWOOD, $6.35 (15 cents); PATCHOULI, $7.25 (25 cents); and GINGER, $17.00 ($1.00). Lower prices were recorded also for CITRAL and EUCALYPTOL.

Pharmaceutical Chemicals

AMIDOL.—In 14-lb. lots the price is 19s. per lb.; 7-lb., 19s. 6d.

AMMONIUM CARBONATE. — B.P. lump is £71 5s. per ton; POWDER, £74 5s. BICARBONATE is £47 15s. per ton, all delivered free U.K. in non-returnable packages.

ASPIRIN. — Prices are as follows:— 5-cwt. lots, 4s. 10d. per lb.; 1-cwt., 4s. 10½d.; 28-lb. and under 1-cwt., from 5s. 8d. to 6s., according to pack. Rates per 1,000 for TABLETS are as follows:—Under 5,000, 5s. 0½d.; 5,000 and over, 4s. 10½d.; 10,000, 4s. 9½d.; 25,000, 4s. 7½d.; 100,000, 4s. 5½d.; 250,000, 4s. 5d.; 500,000, 4s. 4½d.; 1,000,000, 4s. 3½d.

BROMIDES.—Reduced. POTASSIUM B.P. crystal in 5-cwt. lots is now 2s. 10d. per lb.; 1-cwt., 2s. 11d. per lb. Powder is 1½d. per lb. more. AMMONIUM is 2s. 11d. per lb. in 5-cwt. lots and SODIUM, 2s. 9d. per lb.

HYDROQUINONE. — Quotations for 1-cwt. lots are 11s. per lb. For smaller quantities viz., 28-lb., 11s. 3d.; 14-lb., 12s.; 7-lb., 12s. 6d.

HYOSCINE HYDROBROMIDE. — Quotations are from 90s. to 95s. per oz., according to quantity, for British material.

MAGNESIUM HYDROXIDE, B.P.C.—Makers' price for 1-cwt. lots is 3s. 5d. per lb.

MAGNESIUM OXIDE.—Rates for LIGHT, B.P., are as follows:—1-ton lots, 4s. 5d.; 1-cwt., 4s. 8d.; 28-lb., in tins (free), 5s. 7d. per lb. In bulk packing, HEAVY, B.P., is 5s. 4d. per lb.; in free tins, 6s. 6d. per lb.

METOL. — In 1-cwt. lots the price is 24s. 6d. per lb.; 28-lb., 25s. 6d.; 14-lb., 27s.; 7-lb., 28s.

NICOTINIC ACID. — 56-lb. lots, 46s. 6d. per lb.; 28-lb., 47s. 9d.; 7-lb., 52s. 9d. per lb.

OLEIC ACID.—Prices for B.P. are from 1s. 7d. to 2s. per lb. and technical from 1s. 5d. to 1s. 10d. per lb.

OXALIC ACID.—In quantities of 1-ton and less than 2 tons, spot material for the home trade is £133 10s. per ton, in 5-cwt. casks; 10 cwt.-1 ton, £138 10s. per ton; 5 cwt.-10 cwt., £143 10s. In 1-cwt. kegs, prices are £4 per ton more; quantities of less than 5-cwt., £162 10s. per ton. Packages free; delivered in U.K.

PILOCARPINE.—In 25-oz. lots prices are: ALKALOID, 56s. per oz.; HYDROCHLORIDE, 46s. per oz.; NITRATE, 42s. per oz.

POTASSIUM ACETATE. — Minimum 1-ton lots of B.P. are £60 per ton.

POTASSIUM BICARBONATE.—B.P. powder is 130s. per cwt.

POTASSIUM METABISULPHITE. — Powder and crystals are £150 per ton in 1-ton lots.

POTASSIUM SULPHATE. — In 1-ton lots B.P.C. is £100 per ton.

PYROGALLIC ACID. — Quotations per lb. for CRYSTALS are as follows: 1 cwt., 18s.; 56-lb., 18s. 6d.; 28-lb., 19s. 6d., net. Smaller quantities are from 21s. to 24s. per lb., less 2½ per cent. RESUBLIMED is 20s. 3d. per lb. for 1-cwt. lots.; 56-lb., 20s. 9d.; 28-lb., 21s. 9d.; 14-lb., 23s. 3d. net. Smalls are from 24s. 9d. to 26s. 3d. per lb., less 2½ per cent.

SODIUM ACETATE. — B.P.C. powder is £123 per ton and crystals, £126 5s. in minimum 1-ton lots.

SODIUM CHLORIDE. — Re-crystallised is 20s. per cwt.

SODIUM SULPHITE.—Prices are as follows:—ANHYDROUS powder, in 4-ton lots, £58 15s. per ton, packed in 1-cwt. free drums. Pea CRYSTALS (photographic) in 4-ton lots, £36 17s. 6d. per ton in free kegs or £28 12s. 6d. per ton in 1-cwt. bags. Surcharges: 2 tons, 10s.; 1 ton, £1; 10 cwt., £2; 5 cwt., £3; 1 cwt., £6 more than above rates.

SODIUM THIOSULPHATE. — In 4-ton lots, packed in non-returnable kegs, the price is £39 2s. 6d. per ton; in 1-cwt. bags, £30 17s. 6d. per ton. £1 per ton extra for paper-lined bags.

Crude Drugs

AGAR. — Kobé No. 1 spot market is almost bare. Forward, buyers' licence, 7s. 6d. per lb., c.i.f.

ALOES. — Prime Cape on the spot is 202s. 6d. per cwt., and 208s., c.i.f. Curaçao is 425s. per cwt., on the spot.

ANTIMONY. — English, 99.6 per cent., £352; 99 per cent., £340 per ton.

BALSAMS. — Canada is 32s. 6d. per lb. on the spot. *Copaiba:* Spot market bare. Para now shipping is offered at 13s. 6d. per lb., duty paid. *Peru* is 15s. 9d. per lb., duty paid, and 13s., c.i.f., for shipment. *Tolu*, natural is steady on the spot at 34s. per lb., and for shipment, 31s., c.i.f.

BENZOIN.—No. 1 Sumatra block on the spot is quoted at from £27 10s. per cwt. and for shipment, £26, c.i.f. Siam almonds (medium bold) are from 32s. 6d. to 37s. 6d. per lb., spot.

BUCHU.—Short round leaves, new-crop, now landing are 2s. 3d. per lb.; old-crop, 2s. 2d.

CAPSICUMS.—Abyssinian are from 140s. to 180s. per cwt. on the spot; 110s. to 120s., c.i.f. East African, on stalk, are 150s. per cwt., and off stalk from 180s. to 200s.

CASSIA BARK.—Whole on the spot is 125s. per cwt., ex warehouse; forward, 117s. 6d., c.i.f.

CHILLIES.—Quiet. Sierra Leone on the spot are 230s. per cwt.; for shipment. 170s., c.i.f.; East African (Mombasa), 275s., ex warehouse; for shipment, 250s., c.i.f.

CINNAMON. — Ceylon for shipment (c.i.f.): OOOO, 2s. 7d.; OOO, 2s. 6d.; OO, 2s. 5d.; O, 2s. 4½d.; firsts, 1s. 8¾d.; seconds, 1s. 7½d.; thirds, 1s. 6¾d.; quillings, 1s. 5d.; featherings, 1s. 1d.; chips, 5¼d. per lb.

CLOVES.—Quiet. Quotations for Zanzibar on spot are 6s. 9d. per lb. and 6s. 9d., c.i.f. for shipment.

ERGOT.—Quiet. Quotations for Portuguese on the spot are 42s. per lb. For supplies at origin, 39s. per lb., c.i.f., is asked.

GALANGAL ROOT. — For spot supplies, 105s. per cwt.; forward, 70s., c.i.f.

GINGER.—Quiet. African on the spot is 150s. per cwt.; April-May shipment, 135s., c.i.f. Jamaican No. 3 is 200s., c.i.f.; spot quotations are nominally 240s. per cwt. Cochin, 132s. 6d. per cwt., c.i.f.

GUM ACACIA.—Firmer. Kordofan cleaned sorts on the spot are 127s. 6d. per cwt.; shipment, 100s., c.i.f., buyer's licence.

KARAYA.—No. 1 gum on the spot is about 300s. per cwt.; No. 2, 200s.

MENTHOL.—Dull. Quotations for Chinese are 53s. per lb., duty paid. Brazilian forward price for April-May shipment is 44s., c.i.f., seller's licence.

NUTMEGS. — Quiet. West Indian 80's, quoted at 4s. per lb. on the spot and 3s. 6d., c.i.f. for shipment. East Indian for shipment, are quoted at from 3s. 7½d., c.i.f.

ORANGE PEEL.—Spanish bitter quarters are about 2s. per lb., duty paid, and West Indian, 1s. 3d., on the spot.

QUILLAIA. — Whole bark on spot is 145s. per cwt., and 127s. 6d., c.i.f., for shipment.

SANDARAC.—Spot material is cleared.

SARSAPARILLA. — Jamaican native red is about 2s. 4½d. per lb. on the spot and for shipment, 2s. 3d., c.i.f.

SENNA.—Tinnevelly leaves on the spot are as follows: Prime No. 1, limited supplies at 1s. 6½d. per lb.; No. 2, 1s. 4d.: No. 3, 1s. For April-May shipment, dry crop, f.a.q. pods are 1s. 11½d. per lb., c.i.f. and hand-picked, 2s. 10d., c.i.f. Alexandria pods are from 2s. 9d. to 6s. 6d. per lb., as to quality.

SEEDS.—ANISE.—Sellers are now quoting 155s. per cwt.; Turkish, 150s., in bond and 157s. 6d., duty paid. CARAWAY.—Sellers of Dutch have reduced their price to 105s. per cwt., duty paid. CELERY.—Indian is offered at 1s. 10½d. per lb., spot London. CORIANDER.—Spot: Morocco, 75s. per cwt., duty paid, and 70s., in bond; Argentine splits, nominal, 80s., duty paid; Indian, from 97s. 6d. to 100s. Shipment: Morocco quoted at 60s. per cwt. for prompt and new-crop for June-July, 62s., c.i.f. London. CUMIN.—Spot: Cyprus, 200s. per cwt.; Indian, 195s.; Malta, 205s., and Morocco, 200s. in bond: 210s., duty paid. Shipment: Cyprus, 170s. per cwt.; Indian, new-crop, 135s., c.i.f. DILL.—Indian, spot London is 82s. 6d. per cwt. FENNEL.—Indian is offered at 205s. per cwt.; French is 190s., duty paid, and 180s. in bond. FENUGREEK.—Morocco offered at 42s. 6d., duty paid, London or Liverpool. MUSTARD.—English, 75s. to 105s. per cwt., according to quality.

SHELLAC. — Spot quotations are: F.O.T.N., pure, 240s.; F.O. Standard No. 1, 260s.; fine orange, 305s. to 365s. per cwt., ex-London warehouse.

STYRAX.—Spot is 7s. 9d. per lb., duty paid.

TAMARINDS.—Quiet. Barbados are about 45s. per cwt. on the spot; Antiguan, 42s. and dry Calcutta, 70s.

TRAGACANTH.—No. 1 ribbon on the spot is £155 per cwt.; No. 2, £135; No. 3, £100,

Essential and Expressed Oils

ANISE.—Firm. Spot supplies are 8s. 6d. per lb.

CANANGA.—Supplies on the spot are quoted at from 57s. 6d. per lb.

CINNAMON.—B.P. oil on the spot is quoted at from 65s. to 70s. per lb. English bark oil is offered at 22s. 6d. per oz. Seychelles leaf, 14s. per lb., spot.

CITRONELLA. — Spot prices for original drums are: Ceylon, 4s. 9d. per lb.; Formosa, 5s. 6d. and Java, 6s. Forward quotations are: Ceylon and Formosa, 4s. 3d. and Java, 4s. 6d. per lb., c.i.f.

CLOVE.—English-distilled oil is 50s. per lb., nominal, with imported oils from 27s. 6d. Madagascar leaf on the spot is 18s. per lb., duty paid, and 14s., c.i.f., for shipment.

COD-LIVER.—Reduced. Medicinal, B.P., is 11s. 6d. per gall. in charged returnable drums. Veterinary is from 11s. 4d. per gall.

EUCALYPTUS.—70 to 75 per cent. eucalyptol on the spot is 7s. 9d. per lb. and 80 to 85 per cent., 8s. 3d.

LAVENDER.—French, 40-42 per cent. linalol on the spot is from 43s. per lb. Spanish spike is 13s. per lb.

LEMON. — Sicilian hand-pressed (4 per cent. citral) is quoted at from 55s. per lb., c.i.f.

LEMONGRASS. — Forward quotations are 9s. 9d. per lb., c.i.f., prompt shipment. Spot supplies are from 10s. 9d. per lb.

LIME.—Limited supplies of West Indian distilled are about 67s. 6d. per lb., on the spot; for shipment, 65s., c.i.f.

NUTMEG.—English-distilled oil is from 40s. per lb. Imported oil (B.P.) is easier at 31s. per lb., duty paid; forward: from 25s. to 28s., c.i.f., as to source.

OLIVE. — Pharmaceutical oil in 45-gall. drums, spot, is from 25s. to 26s. 6d. per gall. French virgin (maximum acidity 1 per cent.), new-crop offered for immediate shipment is easier at £245; Tunisian virgin at £235, and French pharmaceutical (maximum acidity 0.25 per cent.), at £240 per 1 000 kilos, c.i.f. U.K. ports. Spanish is £220 10s. per 1,000 kilos, f.o.b., main Spanish port.

ORANGE.—West African is from 17s. to 18s. per lb.

PALMAROSA. — Spot quotations of Formosan are 40s. per lb.

PATCHOULI. — Spot supplies of Penang are offered at from 58s. to 60s. per lb. and forward, 50s., c.i.f.

SANDALWOOD. — Mysore oil on spot is from 72s. 6d. per lb. for 10-case lots. Australasian oil is offered at 45s. per lb.

SASSAFRAS.—Brazilian natural is offering at from 6s. 6d. to 7s. 6d. per lb., duty paid, according to grade.

SPEARMINT.—Firm. U.S.P. is scarce at 67s. 6d. per lb., on the spot.

VETIVERT.—Bourbon in original drums is 182s. 6d. per lb., spot.

WORLD TRADE

Turkey Exports Mercury Again. — Turkish exports of mercury have been resumed after several years with a recent delivery of 400 kilos to Austria.

Pakistan Regulations.—The Pakistan Government has amended Rule 38 of the Drug Rules, 1945. The statement which accompanies all consignments of drugs imported into the country must now contain a declaration that the sale of the drugs is not prohibited in the country of manufacture, or, as the case may be, the country of export.—The stamp duty in Karachi is to be increased to bring it into line with rates in the provinces. Bills of lading, letters of credit and promissory notes are affected.

Ceylon Drug Factory Closes.—Ceylon has decided to close down the State drugs factory as at present constituted, and to transfer some of its activities to other government departments. Production of quinine, which was one of the principal products of the factory, is to be stopped owing to lack of demand. The processing of shark-liver oil has been taken over by the fisheries department and of caffeine from tea refuse by the Industrial Research Laboratory. The drugs factory was started with the object of producing quinine from the locally grown cinchona bark. The limited supplies of available bark restricted the output of quinine to an uneconomic level. The present annual requirements of quinine in Ceylon are estimated at about 5,000 lb. against 27,000 lb. before the use of DDT and other insecticides.—A committee of medical officers and representatives of the drug trade is being set up by the Government of Ceylon to frame regulations for the supervision of import and sale of drugs.

Australian Import Cuts. — Details of the oilseed and chemical items affected by the recent Australian import cuts (see *C. & D.*, March 15, p. 378), are given below: *Category A:* Items which will be permitted to 60 per cent. of the 1950-51 value include:—

Amylic alcohol; collodion; methyl alcohol; acetone; non-medicinal spirituous preparations, including essences and extracts; flavouring esters and aldehydes; waxes, including paraffin wax, carnauba and ouricuri; magnesia, magnesium carbonate and magnesium chloride; oils, including fish oils and animal fats; uncompounded refined cod-liver oil; unrefined coconut oil; palm oil; shellac and other dry gums; dextrin; hydrochloric, nitric, sulphuric and phosphoric acids; nicotine and rotenone spraying preparations; ammonium acetate, carbonate and chloride; anhydrous ammonia and aqueous solution of ammonia; bromine salts; cyanide of potassium, sodium and calcium; sodium silicate; chemicals used in fire extinguishers; citric acid; quillaia bark; salicylic acid and other fruit preservatives, and boric acid; arsenic compounds; alum; calcium, barium, and zinc chlorides and zinc sulphate; carbon bisulphide; metabisulphites of potassium and sodium; pyrethrum flowers and other herbal ingredients of drugs; chlorate and carbonate of potash; bismuth metal and salts; trisodium phosphates; balsam of Copaiba; rotenone bearing roots; nitrate of soda; crude iodine; caffeine; sulphate of copper; bacteriological products and sera; insulin; liver extracts; non-spirituous essential oils; camphor; petroleum jelly; Fuller's earth; synthetic perfumes other than methyl salicylate and vanilla beans.

Category B: Items which will be permitted to 20 per cent. of the 1950-51 value include:—

Bay rum, perfume spirits; non-medicinal and non-spirituous preparations, including lime and other fruit juices and syrups; ethers and chloroform, ethyl acetate, flavouring essences; night lights; ginger; dried herbs; medical fats; soap dyes; soap; spices; beeswax; oils, including medicinal oils; plaster of Paris; pyroligneous acid, acetic acid and vinegar; benzol naphtha; cresylic acid naphthalene; sheep, cattle and horse washes in liquid or powder form; insecticides and disinfectants, preparations being formaldehyde or containing formaldehyde; insecticides such as mosquito spirals or coil fly papers; pyrites; carbonic acid gas; bicarbonate of soda; caustic soda; tartaric acid; saccharin; arsenate of lead; sulphate of magnesia; lactose; hydrogen peroxide; powdered magnesium; menthol; thymol; sodium bichromate; phenol; bacteriological products and sera; pharmaceutical preparations; patent and proprietary medicines and drugs and other medicines excepting insulin, etc.; plasters, unmedicated or medicated; materials used in the manufacture of perfumes; glycerin; wool fat; perfumery; synthetic perfumes, etc.

Items which will be dealt with administratively on individual merit include turpentine, morphine, morphine salts, and opium for medicinal purposes.

MISCELLANEOUS INQUIRIES

Uses for Waste Material.—*R. G. W.*—In finding uses for industrial waste material you can get help from the Department of Scientific and Industrial Research Intelligence 1, Charles House, 5 Regent Street, London, S.W.1.

Repairing Battery Leaks.—*R. S. D.*—A preparation used to repair leaks in motor-car batteries is pitch in which teased-out asbestos fibres have been mixed. The heated mass is applied to the cleaned dried side of the accumulator to cover the leaks amply.

"Soil Blocks."—*A. U.*—No binding agent is used in the manufacture of "soil blocks." Compost made to the John Innes formula is simply subjected to pressure in a suitable mould. It is an advantage to have the compost slightly more moist than usual.

Sodium PAS Cream.—*S. E. D.*—The following is a suitable formula:—

Sodium *p*-aminosalicylate	10
Lanette wax SX	7
Hard paraffin	5
Liquid paraffin	41
Sodium metabisulphite	0.1
Water	to 100

Sulphonamide in Coccidiosis.—*J. J.*—The sulphonamide compound generally employed to prevent coccidiosis in fowl is sulphadimethylpyrimidine. For poultry, it is conveniently administered in the drinking water at a concentration of 0.2 per cent. Doses of 0.05 gm. daily are regarded as correct. The drug may be also fed in the mash at the rate of 1-2 gm. per lb. of mash (about ¼ oz. per 5 lb.).

Condition Powders for Pigs.—*H. S. L.*—The following is a representative recipe for pig powders:—

Potassium nitrate	8 oz.
Sublimed sulphur	8 oz.
Ferric oxide	4 oz.
Turmeric in powder	8 oz.
Caraway in powder	2 oz.
Fenugreek in powder	10 oz.

Dose: ½ to 1 tablespoonful.

Labelling a Cantharides Lotion.—*J. R. L.*—A lotion containing tincture of jaborandi and vinegar or tincture of cantharides is outside the poisons legislation in respect of the first item. So far as its cantharides content is concerned the lotion comes within the First Schedule, and requires an entry in the poisons register. As a Part I poison it is only saleable by an authorised seller of poisons. The product must be labelled with the statutory name of the poison (i.e., cantharidin), the proportion of the poison (in terms of cantharidin), and the word "Poison."

Mepyramine Maleate Poisoning.—*J.M.B.*—The following method of treatment of poisoning by mepyramine maleate is suggested by Geiringer ("British Medical Journal," 1952.I.163):—

1. Wash out the stomach.
2. Treat the patient in a darkened room and avoid all unnecessary stimulation.
3. Do not administer inhalation anæsthetics or barbiturates.
4. If drug therapy seems desirable, try morphine or histamine, the latter in doses no greater than the amount (weight for weight of histamine acid phosphate) thought to have been absorbed by the patient.
5. Watch for respiratory depression, and give respiratory stimulants if it supervenes.
6. Take any supportive and eliminative measures which are not in conflict with the above.

NEW BOOKS

Intelligent Use of the Microscope.—Second edition. C. W. Olliver. 8½ x 5½ in. Pp. 192, 15s. Chapman & Hall, Ltd., 37 Essex Street, London, W.C.2. The chief change in the new edition is the addition of a chapter on phase-contrast microscopy. The aim of the book remains the same: to introduce the subject of microscopy to the beginner. The scope is limited to a consideration of the optical theory behind the microscope, description of the microscope itself, and outlines of manipulative techniques. Particularly useful chapters are those on how to set about buying an instrument (including rules to be applied in testing it), illumination, resolution, and measurement and counting.

Your Guide to Better Box-camera Photography (second edition) and **How to Develop, Print and Enlarge your own Photography** (second reprint). 7¼ x 4¾ in. Pp. 32 each. Price 1s. 6d. each. The Fountain Press, 46 Chancery Lane, London, W.C.2. The two booklets are members of a series, some of which, like the second title above, are based on extracts from the same publishers' "Photo Facts" handbooks. Each presents the essentials of its subject in simple and straightforward terms, illustrating photographically or by diagram any details that demand graphic explanation. They may be recommended with equal confidence to the customer who has decided to take up photography seriously and the person whose interest in the subject has first to be aroused.

TRADE MARKS

From the "Trade Marks Journal," March 19

For industrial, scientific and photographic chemical products (1).
GERSTHOFEN, B698,606, by Lech-Chemie Gersthofen, Germany.

For chemical substances for use as nutritive additions to cereal food preparations (1).
ROCHE, ROCHE MIX, 698,706-07, by Roche Products, Ltd., Welwyn Garden City.

For all goods, excluding detergents (3).
ARTAB, B693,253, by the Lea Manufacturing Co., Connecticut, U.S.A.

For leg-tan and sun-tan lotions all being cosmetic or non-medicated toilet preparations (3).
GLENTANO, 698,427, by Jay-Bee Products (Belfast), Ltd., Belfast, Northern Ireland.

For denture-cleansing powders and preparations for cleansing the teeth (3).
OXYDENT, 703,082, by Scott & Bowne, Ltd., London, W.1.

For non-medicated toilet preparations (3) *and for pharmaceutical and sanitary preparations and substances* (5).
PENATEUR, 704,516-17, by Penaten Pharmazeutische Fabrik Dr. Med. Riese & Co., G.m.b.H., Rhondorf-am-Rhein, Germany.

For tonic preparations for veterinary use (5).
ARTENA, 701,514, by Farbenfabriken Bayer, Leverkusen, Germany.

For veterinary preparations containing iron (5).
FERROVET, B703,065, by The Crookes Laboratories, Ltd., London, N.W.10.

For pharmaceutical preparations (5).
SALIMED, B703,343, by Medo-Chemicals, Ltd., London, N.1. RETARCYL, 703,840, by Ana Laboratories, Ltd., Wembley.

For hypnotics (5).
HYPNOL, B703,880, by The British Drug Houses, Ltd., London, N.1.

For sanitary towels (5).
ENESS, B703,704, by Morrisons & Ralph, Ltd., Barrhead, Glasgow.

For all goods (5).
SOMILAN, 703,879, by The British Drug Houses, Ltd., London, N.1. NULACIN, 704,452, by Horlicks, Ltd., Slough.

For penicillin troches being pharmaceutical products (5).
PONDET, 703,904, by Wyeth, Inc., Philadelphia, U.S.A.

For deodorants for human and veterinary use (5).
B-GON, B704,056, by Bob Martin, Ltd., Southport.

For insecticides and fungicides (5).
MURVESCO, 704,601, by the Murphy Chemical Co., Ltd., Wheathampstead, Herts.

For apparatus and materials for use in chemical analysis for testing for urine-sugar content (10).
CLINITEST, B696,436, by Ames Co., Inc., Indiana, U.S.A.

For combs for the hair (5).
WIDGIE, B703,979, by E. R. Howard, Ltd., London, E.C.1.

WELLCOME LIBRARY INSTITUTE

A PYRETHRIN SYNERGIST

PIPERONYL butoxide has been recommended in the United States as an insecticide, particularly for use with pyrethrins, for which it is a synergist (a mixture of eight parts of piperonyl butoxide with one part pyrethrin exceeds by 70 per cent. the minimum kill required in the official U.S. test for pyrethrins).

Piperonyl butoxide is the trade name of a technical product containing 80 per cent. of a 2(2 butoxy ethoxy)ethoxy 4:5-methylene dioxy 2 propyl toluene, or 4:5-methylene dioxy 2 propyl benzyl butyl diethylene glycol ether. The compound was first announced by Dodge & Olcott, Inc., Bayonne, New Jersey, U.S.A., in 1947. 1,2. Piperonyl butoxide is soluble in mineral oils and gives a clear solution with most substances used for aerosols. It evaporates without leaving a residue. The compound is practically non-toxic to warm-blooded animals (its LD/50 is 7.5 gm. per kilo.) and has no irritant properties. It has been particularly recommended as a domestic fly spray (mixed with pyrethrin) in possessing excellent "knock-down" and "kill" properties. Piperonyl butoxide with or without pyrethrin or DDT or both has been used against mosquitoes, cockroaches, aphids, and other insects, and for protecting fabrics. 100 mgm. of piperonyl butoxide with 20 mgm. of pyrethrins in 100 c.c. of an odourless petroleum fraction knocked down 93 per cent. and killed 62 per cent. houseflies. With 400 mgm. of piperonyl butoxide and 40 mgm. of pyrethrins, the respective kills were 97 and 90 per cent. 100 mgm. of piperonyl butoxide with 5 mgm. of pyrethrins in odourless peroleum gives 131 days' residual action after spraying. Six parts of piperonyl butoxide with one part pyrethrin in mineral oil is effective against cockroaches.

PRINT AND PUBLICITY

Making a Cine-film.—Making Your Film—The Basic Techniques" is the title of a 12-p. booklet, price 1s. 6d., published by the Royal Photographic Society, 16 Princes Gate, London.

Flash Bulb Details.—A technical leaflet on Photoflux flashbulbs for amateur and professional photographers has been issued by Philips Electrical, Ltd., Century House, Shaftesbury Avenue, London, W.C.2.

Medical Film.—A film entitled "Cardiac Output in Man" has been added to the library of Imperial Chemical Industries, Ltd., 61 Curzon Street, London, W.1. The film (M.29, 16-mm. colour, running time 38 minutes) demonstrates the method of estimating cardiac output.

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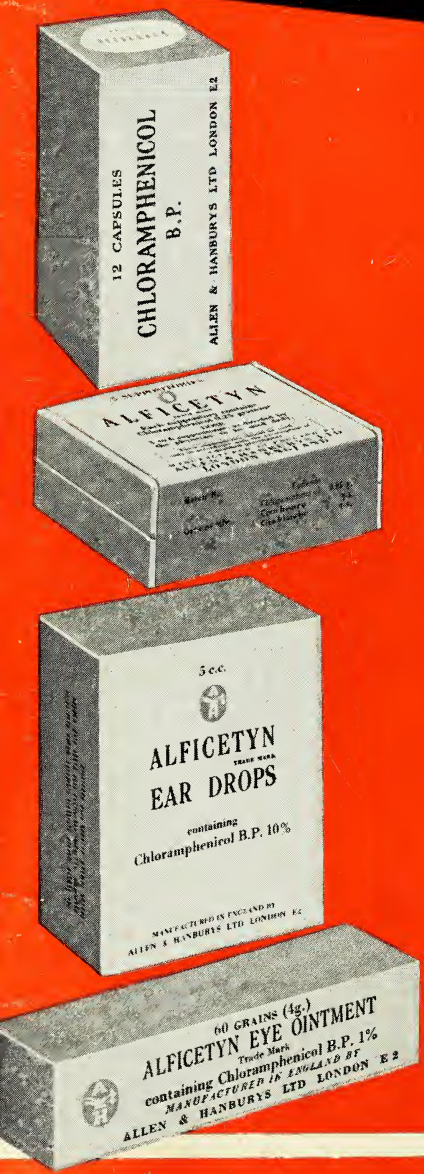

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